



INSIGHT JOURNAL

UiTM Cawangan Johor

**International, Refereed, Open Access,
Online Journal**



**Volume 11
Issue 1**

Indexed in MyJurnal MCC

Abstracted in Asian Digital Library (ADL)

FEEDBACK ON ADDING GAME ELEMENTS AND QUIZZES IN ENGINEERING THEORETICAL SUBJECTS

Mohammad Abdullah¹, Soo Kum Yoke²

¹*Chemical Engineering Studies, College of Engineering, Universiti Teknologi MARA Johor (UiTM),
Pasir Gudang Campus, Johor, Malaysia*

²*Academy of Language Studies, Universiti Teknologi MARA Negeri Sembilan,
Rembau Campus, N. Sembilan, Malaysia*

Email: ¹moham3767@uitm.edu.my, ²sooku607@uitm.edu.my

Received Date: 19th September 2023

Accepted Date: 14th January 2024

ABSTRACT

Engineering subjects that are heavily theoretical may cause students to get bored and lose interest in engineering studies. It will not only make students fall asleep but also prevent them from comprehending the specifics of the subject matter. In view of this, several ways can be used to ensure the learning atmosphere is more effective and less boring, such as quizzes, games, and interactive learning. Therefore, this paper intends to give feedback regarding adding games and quizzes in theoretical subjects. Adding games and quizzes in the classroom makes learning activities more cheerful, and students are always eager to focus on learning. Among the games that can apply are puzzle games, Kahoot, and Jenga. Adding games makes students more competitive in answering the questions asked in class and, simultaneously, makes them quickly understand the theory learned in class. This paper describes students' responses to using games and quizzes in theoretical subjects in class. To get feedback, surveys with game and quiz components were used to gauge student happiness and the quality of instruction in the classroom. Students gain from adding game and quiz components to theoretical subjects in few ways: they learn more quickly, do not feel sleepy, and the classroom is more upbeat and understandable.

Keywords: Theoretical subject, games, quizzes, feedback, classroom

1.0 INTRODUCTION

The incorporation of games in theoretical subjects has been a topic of interest in education research in recent years. Students who study a subject that includes a thorough theoretical understanding of the course material for an engineering programme tend to pay less attention in class and frequently feel sleepy (Mihara, 2018). Apart from that, it is difficult for them to focus clearly when the lecturer is teaching theoretical subjects because they used to focus on subjects that contain elements of calculation and mathematics. Fun should incorporate into the teaching of theory courses to improve the learning environment and students' comprehension of the material (Cheung & Ng, 2021).

Games, tests, discussions, puzzles, competitions, and so forth are entertaining ways to teach theoretical subjects (Jääskä & Aaltonen, 2022; Taib et al., 2021; Razak et al., 2022). Diaz-Ramirez (2020) further reiterates that when games applied to education, they can motivate and engage students in their learning process. According to Leitao et al. (2022), motivation and student involvement are the most crucial elements determining a teacher's efficacy. Motivation is indispensable in the process of learning to achieve high academic performance.

In a meta-analytic review of digital educational games, the result found that game-based elements added for content learning were more effective, especially when it came to studies involving science and computer learning in STEM areas (Gui et al., 2023). In a field experiment with a gamified app, the result shows that adding game elements such as progression, rewards, and competition to a quiz format improved student engagement and motivation.

Manzano-León et al. (2021) examined the impact of educational gamification on student motivation and academic performance. The results demonstrated the potential influence of educational gamification on students' motivation, commitment, and academic success. Although there are many elements in gamification, in this feedback study, only two elements were identified, namely games and quizzes. Therefore, the purpose of this study is based on student feedback on the elements of games and quizzes which included in the learning session of the engineering theoretical subject.

2.0 METHOD AND RESULTS

The engineering course CHE323 Palm Oil Manufacturing and Application, which solely stresses theoretical components in the learning scale and syllabus, was the one selected for this investigation. Thirty-four students from classes J4EH1104B and J4EH1104E for the October 2022–February 2023 semester session made up the student population used in this study. The gender distribution is in Figure 1. After the learning process incorporating game components and quizzes, the feedback questions were asked in class to gather input from the students. The overall process of data collection is in Figure 2.

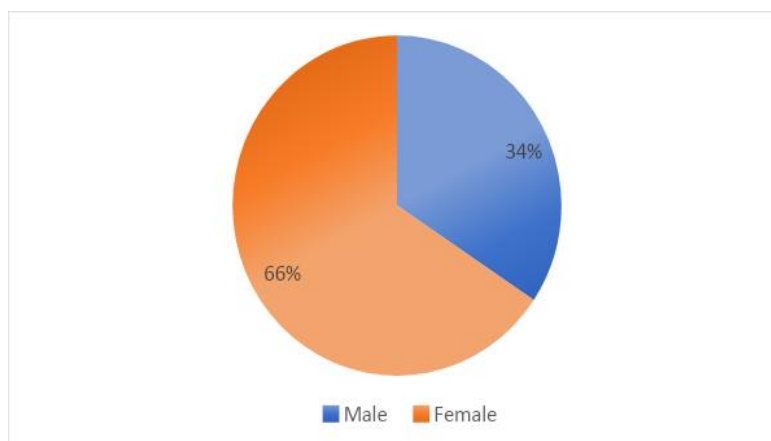


Fig. 1: Gender distribution for this feedback study

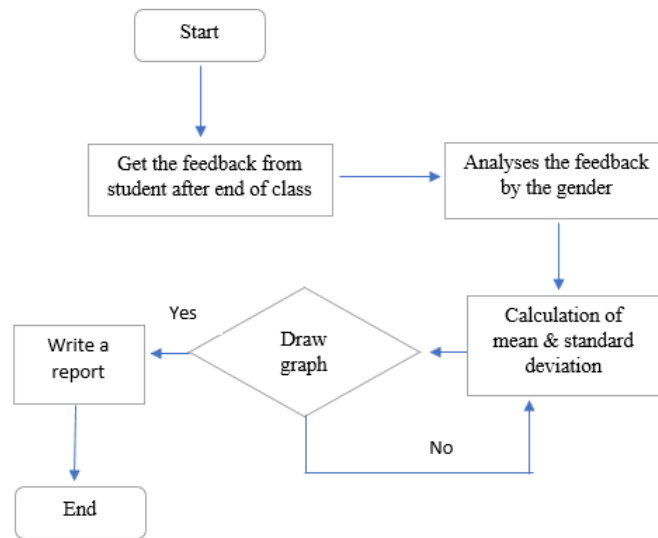


Fig. 2: The feedback data collection procedure flow

The following is the addition of games and quizzes in the teaching of theoretical subjects:

Elements of games and quizzes combined at one time can cause the learning environment to become more interactive, which will cause two-way communication between students and lecturers (Adipat et al., 2021). Before responding to the quiz questions based on the subject's theoretical notes, the students in this study must complete two kinds of games: coloured drawings and block puzzle games. The game activities used in class for the CHE323 Palm Oil Manufacturing and Application subject depicted in Figures 3 and 4. The students are divided into groups, with four people in each group. This study employed a quiz game with coloured images made using crayons as the answers for topics that include theory. It discovered that a large number of students were able to provide accurate answers because they were eager to illustrate what they had, in theory, learned earlier. The transfer of knowledge through drawing gives a good understanding effect on learning (Yu & Li, 2022).

Prior to students responding to quiz questions, there were additional game components that incorporate problem-solving exercises (Figure 4). Students were more willing to respond to questions when they were asked, according to observations and classroom activities. On the other hand, they were considering the answers to quiz questions when they were concurrently doing puzzles and obstacle games. Problem-solving or mission-based games also contribute to the provision of an efficient learning environment for pupils when they are studying comprehensive theory subjects (Liu & Israel, 2022).

As Figures 5, 6, and 7 demonstrate, feedback regarding the usage of game features and quizzes could enhance learning. Over 90 percent of students agreed that the theory disciplines should have an interactive learning component, according to the data broken down by gender. Over 95 percent of the students expressed agreement that games and quizzes could help them comprehend and retain the material covered in class. Over 95 percent of students felt

that receiving feedback on games and quizzes could encourage them to understand theoretical courses.



Fig. 3: A component of the drawing game: As a response to a quiz administered by the lecturer, students must apply the theoretical knowledge they have acquired into a coloured picture.



Fig. 4: Elements of solution games, like challenge games and block puzzles: To decide who will respond to the lecturer's quiz questions first, students must finish the game activities before responding to the questions.

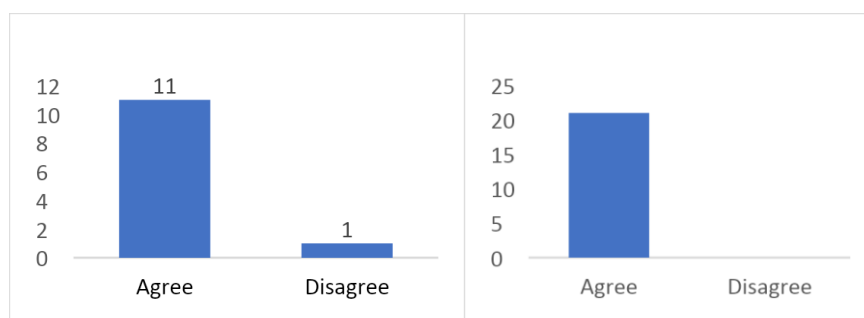


Fig. 5: Responses to the theoretical topics: The necessity of adding an interactive component to learning.

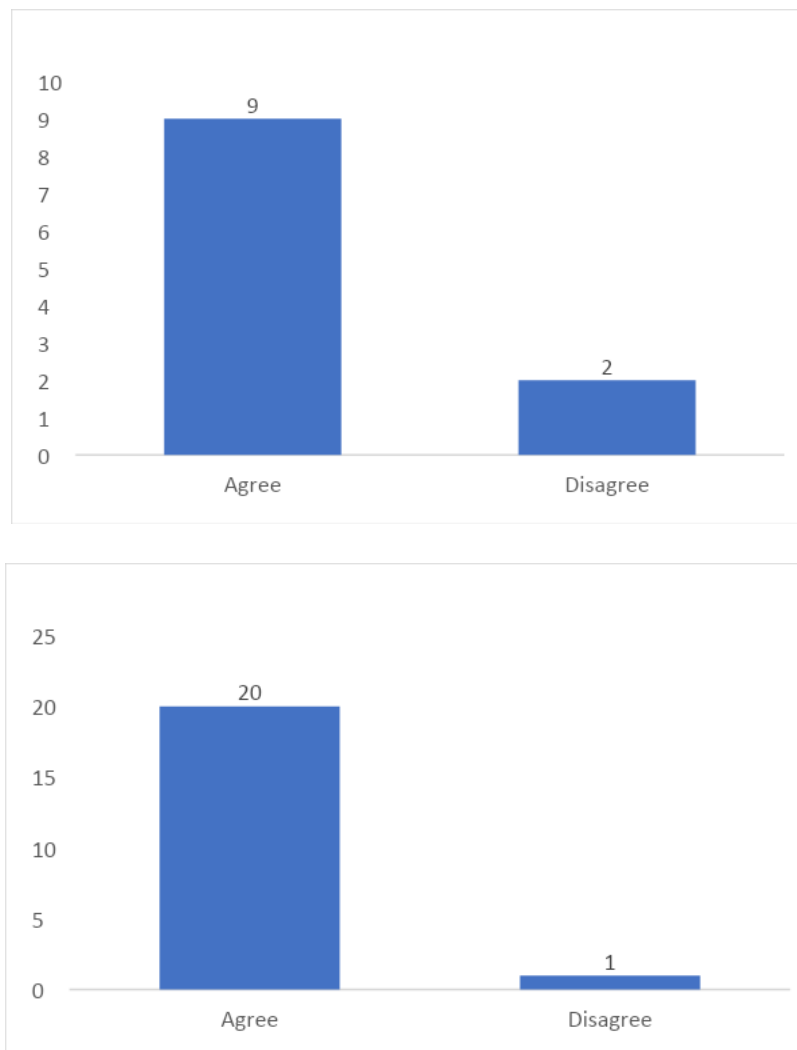


Fig. 6: Feedback on games and quizzes can easily make the student understand and remember the taught in the classroom.

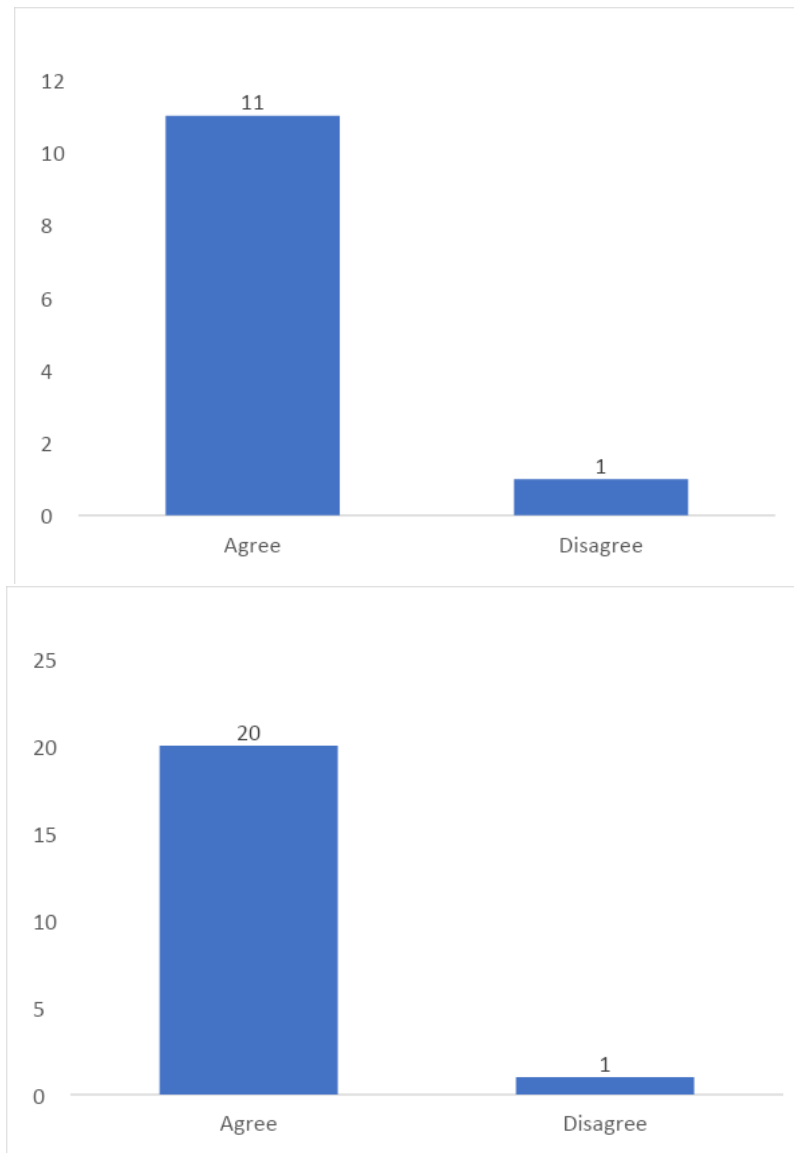


Fig. 7: Feedback on games and quizzes can motivate students to learn theoretical subjects.

3.0 CONCLUSION

The students found out that the game elements and quizzes that were added to the theoretical subjects helped them tremendously to learn, understand, and memorize the theoretical aspects. The elements of games and quizzes make students more active in theory classes, which always considered as boring compared to subjects that contain elements of calculation (Selvi et al., 2018). The positive feedback has shown that elements of games and quizzes should inserted into the theoretical subjects so that students understand better. The improvement for the next study is regarding additional student feedback on the suggestions of game elements that should be include in the theoretical subjects.

REFERENCES

- Adipat, S., Laksana, K., Busayanon, K., Asawasowan, A., & Adipat, B. (2021). Engaging students in the learning process with game-based learning: The fundamental concepts. *International Journal of Technology in Education (IJTE)*, 4(3), 542-552. <https://doi.org/10.46328/ijte.169>.
- Cheung, S.Y. & Ng, K.Y. (2021). Application of the educational game to enhance student learning. *Front. Educ.* 6:623793. doi: 10.3389/feduc.2021.623793.
- Díaz-Ramírez, J. (2020). Gamification in engineering education—An empirical assessment on learning and game performance. *Heliyon*, 6(9).
- Jääskä, E. & Aaltonen, K. (2022). Teachers' experiences of using game-based learning methods in project management higher education. *Project Leadership and Society*, 1-12, <https://doi.org/10.1016/j.plas.2022.100041>.
- Gui, Y., Cai, Z., Yang, Y., Kong, L., Fan, X., & Tai, R. H. (2023). Effectiveness of digital educational game and game design in STEM learning: a meta-analytic review. *International Journal of STEM Education*, 10(1), 1-25.
- Leitão, R., Maguire, M., Turner, S., & Guimarães, L. (2022). A systematic evaluation of game elements effects on students' motivation. *Education and Information Technologies*, 1-23.
- Liu T. & Israel M. (2022). Uncovering students' problem-solving processes in game-based learning environments. *Computers & Education*. <https://doi.org/10.1016/j.compedu.2022.104462>.
- Manzano-León, A., Camacho-Lazarraga, P., Guerrero, M. A., Guerrero-Puerta, L., Aguilar-Parra, J. M., Trigueros, R., & Alias, A. (2021). Between level up and game over: A systematic literature review of gamification in education. *Sustainability*, 13(4), 2247.
- Mihara, K. (2018). A Study on Reducing the Sleeping in Class Phenomenon in Japanese Universities through Student Motivation. *International Journal of Higher Education*, 7(3), 80-89.
- Razak, R. A., Dol, A. H., Wahid, A., & Musman, M. (2022). Maintaining Student Engagement and Motivation in Management Accounting Course: OV Game for Students. *INSIGHT Journal*.
- Selvi, M. & Ayşe Öztürk Çoşan (2018). The Effect of Using Educational Games in Teaching Kingdoms of Living Things. *Universal Journal of Educational Research*, 6(9), 2019-2028.
- Taib, S. A., Sa'adan, N., Saberi, N. I. M., Mat, N. A., Suri, N. A. K., Murtadza, F. A. N., & Syahira, N. (2021). Jenglish: A Game for ESL Classroom. *Insight Journal*, 8(2), 18.
- Yu, L. & Li, Y. (2022) A study of practical drawing skills and knowledge transferable skills of children based on STEAM education. *Front. Psychol.* doi: 10.3389/fpsyg.2022.1001521.

ANALYSING RESEARCH PATTERNS IN EMPLOYEE MOTIVATION AND PERFORMANCE: A BIBLIOMETRIC PERSPECTIVE

Rosliza Md Zani^{1*}, Azyyati Anuar², Syukriah Ali³, Yong Azrina Ali Akbar⁴, Fatihah Norazami Abdullah⁵

^{1,2,3,4,5} Faculty of Business and Management, Universiti Teknologi MARA Cawangan Kedah, 08400 Merbok, Kedah, Malaysia

*Corresponding author

Email: ¹rosliza568@uitm.edu.my, ²azyyati@uitm.edu.my, ³syukriah@uitm.edu.my, ⁴yong198@uitm.edu.my, ⁵fatih876@uitm.edu.my

Received: 7th October 2023
Accepted: 28th February 2024

ABSTRACT

Employee motivation and performance are critical elements for organisational success, significantly impacting productivity and job satisfaction. This study conducts a thorough bibliometric analysis of research on employee motivation and performance, offering insights into the field's development, key research areas, and influential contributors. The research objectives of this study include investigating the authorship by using research on employee motivation and performance using bibliometric analysis, addressing the analysis of the keywords' clusters consisting of three co-occurrence networks, and synthesising the research trends on employee motivation and performance with a focus on the geographical distribution of publications and authorship. Using Scopus data spanning from 2004 to 2023, this research maps the landscape of employee motivation and performance literature. The analysis reveals a growing interest in this topic over the years, with articles being the predominant publication type, indicating a commitment to in-depth exploration. Notably, authors like Hitka, M. and Lorincová, S. have made substantial contributions and the prevalence of the "Business, Management, and Accounting" subject area highlights the interdisciplinary nature of this field. The study underscores the continuous evolution of employee motivation and performance research, driven by scholars worldwide.

Keywords: employee motivation, performance, bibliometric analysis, organisational behaviour, research trends

1.0 INTRODUCTION

Employee motivation and performance are key areas of scholarly interest due to their significant impact on productivity, job satisfaction, and overall workplace dynamics, crucial for organisational success. Motivated employees tend to show higher dedication, engagement, and job satisfaction, leading to improved performance outcomes and organisational growth.

Employee motivation plays a crucial role in organisational success and productivity. Uka and Prendi (2021) emphasise that motivation serves as an indicator of performance and productivity from employees' perspective. Strategic focus on motivation can lead to increased productivity, improved job satisfaction, and enhanced overall organisational performance. Lee and Raschke (2016) support this notion, highlighting that motivated employees contribute to better organisational outcomes. Furthermore, Okine et al. (2021) suggest that understanding various types of motivation and the factors influencing employee motivation and performance can aid organisations in developing effective strategies to enhance both.

The gap in this study rests in the limited use of bibliometric analysis to explore the relationship between employee motivation and performance. While the study provides a comprehensive overview of existing research, it does not delve deeply into the quantitative aspects of this relationship using bibliometric methods. This gap presents an opportunity for future research to conduct more in-depth analyses using bibliometric techniques to further enhance our understanding of employee motivation and performance dynamics.

Therefore, this study aims to conduct a bibliometric analysis focusing on key articles related to employee motivation and performance using the Scopus database. By analysing Scopus, which includes various academic sources, the study seeks to understand research trends and issues in this area more comprehensively. Previous studies have utilised the Scopus database to conduct bibliometric analyses on various topics, including motivation in physical education (Chen et al., 2022), and intrinsic motivation research trends (Shaikh et al., 2021). These studies demonstrate the usefulness of the Scopus database in conducting bibliometric analyses and gaining insights into research trends and issues. Moreover, the importance of this study resides in its focus on employee motivation and performance, critical elements for organisational success. Through bibliometric analysis, it offers insights into research evolution, key areas, and contributors, enhancing our understanding of this relationship. This knowledge is vital for optimising the workforce, improving productivity, and enhancing job satisfaction. The study offers interdisciplinary insights and global perspectives, shaping future research and guiding organisations in developing effective strategies.

Hence, the contribution of this study lies in its comprehensive bibliometric analysis of research on employee motivation and performance. By examining a wide range of publications, the study provides valuable insights into the development, trends, and key contributors in this field. It sheds light on the interdisciplinary nature of research on employee motivation and performance, highlighting its relevance across various disciplines. Additionally, the study offers a detailed examination of publication trends, notable authors, influential journals, and emerging themes, providing a roadmap for future research directions. Overall, this study significantly contributes to the existing literature by offering a comprehensive overview and guiding future research in this important area.

Consequently, the objectives of this paper are as follows: (1) to investigate the trends and productivity of research on employee motivation and performance using bibliometric analysis. This analysis sort articles by document and source type, year of publication,

subject area, and most active source titles; (2) to address the analysis of the keywords' clusters consisting of three co-occurrence networks; and (3) to synthesise the research trends on employee motivation and performance with a focus on the geographical distribution of publications, and authorship.

Finally, the paper is structured as follows. The first section describes the evolution of the literature review in the field of employee motivation and performance, while the second section describes the methodology employed for this study and the search strategy flowchart. The third section discusses the relevant bibliometric indicators' outcomes and analyses. This section contains bibliometric analysis tables and figures. The final section contains conclusions and recommendations.

2.0 LITERATURE REVIEW

The literature reviewed presents a thorough analysis of the correlation between employee motivation and performance. Rizwan et al. (2014) found a significant positive relationship in Pakistan, emphasising intrinsic incentives. Asriani et al. (2020) highlighted the importance of enhancing employee performance, particularly in small and medium-sized Pakistani firms. Kuswati (2020) suggested that decreased motivation might explain declining performance, supported by empirical data. Pangastuti et al. (2020) further supported this, emphasising the substantial impact of work motivation on performance. These studies collectively underscore the critical role of motivation in driving performance and organisational success, providing valuable insights for practitioners and researchers.

Furthermore, the exploration conducted by Girdwichai and Sriviboon (2020) delved into the mediating role of the work environment and training in the relationship between employee motivation and performance, uncovering significant correlations. Meanwhile, Ekundayo and Ayo (2018) made a compelling case for a direct and robust correlation between motivation and performance, contributing to the discourse with their emphasis on this relationship. Carvalho et al. (2020) presented additional support by demonstrating a positive correlation between motivation, work satisfaction, and employee performance.

Alhempri and Supeno (2021), and Sinambela and Ernawati (2021) further solidified the notion that motivation holds a significant and favourable impact on employee performance. It's noteworthy that the study conducted by Ekundayo and Ayo (2018) stands out for its clear and strong association between employee motivation and performance, emphasising the pivotal role of motivation in achieving exceptional performance outcomes. This underscores the critical nexus between these two factors. In parallel, the ongoing research efforts led by Sinambela and Ernawati (2021) consistently bolster the overarching concept, adding depth and significance to the understanding of motivation's multifaceted impact on various dimensions of employee performance within the intricate landscape of organisations.

In contrast, Marques (2021) employed bibliometric analysis on 61 publications about Public Service Motivation and Leadership, revealing a recent surge in research activity. However, a notable focus on the United States underscores the need for broader geographical diversity in future studies, raising questions about findings' generalisability across cultural contexts. Further research is essential to deepen the understanding of Public Service Motivation and Leadership.

In summation, this body of literature collectively underscores the utmost importance of motivation in enhancing diverse facets of employee performance. By offering diverse perspectives from different contexts, research methodologies, and organisational settings, it provides a robust foundation for future investigations in this critical area of study, emphasising the enduring relevance and multifaceted nature of the motivation-performance

relationship. Indeed, it is evident that there is a scarcity of studies employing bibliometric analysis to investigate the relationship between employee motivation and performance. Consequently, it is necessary to examine this study thoroughly through the lens of bibliometric analysis.

3.0 METHODS

3.1 Bibliometric analysis

Bibliometric analysis, a method for assessing scientific research productivity, relies on statistical analysis of databases to extract indicators such as authors, sources, and geographical distributions (Zyoud et al., 2017; Dabirian et al., 2016). This approach is increasingly used to uncover research trends in specific domains (Ahmi & Mohamad, 2019). It provides insights by displaying data on publication compilation from databases, including publication type, publication location, h-index, authors, frequency of keywords, and citation count (Ahmi & Mohd Nasir, 2019).

The bibliometric analysis for the current study was performed utilising VOSviewer, a freely accessible software application designed to generate and illustrate network relationships (vosviewer.com). The mentioned software is capable of constructing a mapping from citation data extracted from reputable databases including Web of Science, Dimensions, PubMed, and Scopus (Williams, 2020). In addition, VOSviewer generates a visual representation of network co-occurrence by utilising the terms that were extracted from the literature review (vosviewer.com). A minimum number of keywords that must be presented collectively in a paper is set by the software (Ciano et al., 2019). Another tool has been performed by utilizing Harzing's Publish or Perish. It is a well-established software application designed to analyse and retrieve academic citations. Its purpose is to assist academicians in demonstrating the maximum benefit of their research impact arguments, even in the presence of a scarcity of citations. Bibliometric research is another application of this tool (Harzing.com). This study additionally examines the influence of publications through the utilisation of Publish or Perish and VOSviewer, which assess citation counts, impact per publication, and citation per publication.

3.2 Source and data collection.

The data required for this bibliometric analysis were obtained from the Scopus database to conduct the present investigation. One of the most crucial features of Scopus is its ability to provide bibliometric indicators in a straightforward and concise manner (Sweileh et al. 2018). With an estimated 1,741 titles, the Scopus database is one of the most reputable academic databases currently accessible; thus, it serves as the principal source of information for this study. The authors conducted the document search in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews of Environmental Science, Pollution, and Meta-Analyses) guidelines, which are illustrated in Fig. 1. A series of searches were conducted that used different combinations of the following keyword string: (TITLE-ABS-KEY ("employee motivation" AND "performance")).

As of August 20, 2023, a total of 727 documents were produced by this Scopus search (refer to Figure 1). Subsequently, the filtration process was executed by excluding publications prior to 2004 from the list of 727 documents. In the end, 661 documents were produced and thoroughly examined through the elimination of 66 documents. Consequently, for additional analysis, applications including VOSviewer, Microsoft Excel, and Harzing Publish or Perish were utilised.

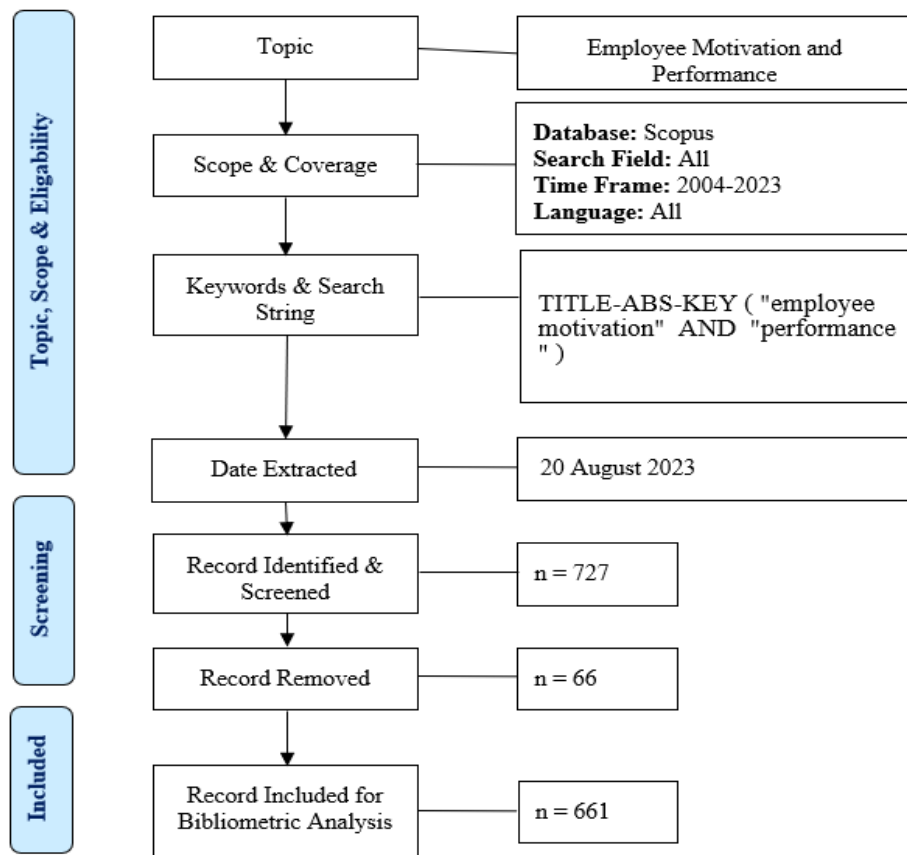


Fig. 1: PRISMA Flow Diagram

4.0 RESULTS & DISCUSSION

4.1 Document and Source Types

Table 1 reveals that 76.40% of all publications fall under the "Article" category, highlighting the significance of in-depth research articles in this field (Luthra & Ranganathan, 2023). In addition, book chapters account for an impressive 5.75% of all publications, demonstrating the importance of in-depth scholarly contributions in book formats. Further analysis of the publication categories reveals that the "Reviews" category, which includes both "Review" and "Conference Review" publications, accounts for 3.48% of the total. This demonstrates the importance of thorough literature assessments and evaluations in the employee motivation and performance domain (Anyim & Onyegbulu, 2020). While "Book" and "Short Survey" publications represent a relatively small proportion of total publications (1.22%), they still contribute significantly to the scholarly discourse of this field (Shaikh et al., 2021). Even though their combined proportion is only 0.60%, "Editorial" and "Note" publications continue to provide valuable insights and brief remarks within this research domain.

Table 1: Document Type

Document Type	Total Publications (TP)	Percentage (%)
Article	505	76.40%
Conference Paper	83	12.56%
Book Chapter	38	5.75%
Review	20	3.03%
Book	4	0.61%
Short Survey	4	0.61%
Conference Review	3	0.45%
Editorial	2	0.30%
Note	2	0.30%
Total	661	100.00

As shown in Table 2, journals are the most prevalent source type, accounting for 81.24% of all publications (Veerabbayi et al., 2023). This exemplifies the scholarly dedication to disseminating research results through peer-reviewed articles and demonstrates the rigour and extent of research in this field. Journals are frequently regarded as the most reliable source of information in academic research because they endure a rigorous peer-review process prior to publication. Conference proceedings account for 9.83% of the total corpus, a sizable proportion. This demonstrates the utility of academic conferences as forums for the dissemination of research findings and the promotion of scholarly discourse on employee motivation and performance. Researchers can present their findings at conferences, receive feedback, and engage in discussions with other academicians in their field (Veerabbayi et al., 2023).

In addition, books, despite constituting a smaller proportion of publications at 4.69%, still make a significant contribution to the corpus of literature in this field (Shaikh et al., 2021). Similarly, book series contribute 3.78%, demonstrating the importance of exhaustive volumes and monographs for the advancement of knowledge. Frequently, books provide in-depth analyses of aspects of the field, enriching the existing corpus of knowledge. Lastly, trade publications, despite constituting only 0.45% of all publications, serve as additional channels for knowledge dissemination and may offer practitioners and professionals in the field valuable insights. Trade publications are frequently written for a specific audience, such as industry professionals, and may include insights and recommendations for enhancing employee motivation and performance at work.

Table 2: Source Type

Source Type	Total Publications (TP)	Percentage (%)
Journal	537	81.24%
Conference Proceeding	65	9.83%
Book	31	4.69%
Book Series	25	3.78%
Trade Journal	3	0.45%
Total	661	100.00

4.2 Year of Publications/Evolution of Published Studies

Table 3 provides a comprehensive overview of the distribution of publications across various years, placing light on the evolution of scholarly contributions to the field of employee motivation and performance. The data demonstrates a sustained level of scholarly activity in this field of study, with significant research output in recent years. The most recent year, 2023, encountered a significant increase in the number of publications, with 43 publications accounting for 6.51% of the total. Previous years also exhibited substantial scholarly activity, with 74 (11.20%) and 71 (10.74%) publications in 2022 and 2021, respectively. These years mark a period of significant research output, which reflects the continued interest and relevance of employee motivation and performance in contemporary organisational contexts.

Table 3: Year of Publications

Year	Total Publications	Percentage (%)	Year	Total Publications	Percentage (%)
2023	43	6.51%	2013	28	4.24%
2022	74	11.20%	2012	25	3.78%
2021	71	10.74%	2011	18	2.72%
2020	58	8.77%	2010	18	2.72%
2019	58	8.77%	2009	14	2.12%
2018	46	6.96%	2008	17	2.57%
2017	39	5.90%	2007	14	2.12%
2016	39	5.90%	2006	16	2.42%
2015	40	6.05%	2005	9	1.36%
2014	30	4.54%	2004	4	0.61%
Total		661			100.00%

Further analysis reveals that each of the years 2020 and 2019 accounted for 8.77% of the total, or 58 publications. The years 2018 and 2017 contributed a combined 12.86% (85 publications) to this research domain, demonstrating a consistent focus during this time frame (Veerabbayi et al., 2023). Interestingly, the years 2014 to 2018 exhibit a comparatively stable number of publications, indicating a sustained level of scholarly activity during this time. Prior years, including 2013, 2012, and 2011, contributed 4.24% (28 publications), 3.78% (25 publications), and 2.73% (18 publications), respectively, highlighting the enduring interest in this field. Finally, the years 2010, 2009, and 2008 account for 6.41% (49 publications) of the total, demonstrating the ongoing investigation of employee motivation and performance over the past decade.

4.3 Languages of Documents

Table 4 demonstrates that English is the predominant language, accounting for 96.57% of all publications in the field of employee motivation and performance. This predominance of English as the primary language of scholarly communication reflects its prevalence in academic discourse worldwide (Liu, 2017). Spanish, Chinese, and German each make notable contributions, constituting 0.75%, 0.45%, and 0.45% of the total, respectively.

Nevertheless, a significant proportion of scholarly articles are written in the English language, hence presenting obstacles for individuals who are not native English speakers or researchers originating from non-English speaking nations (Hurltgen, 2019). The global phenomenon of prioritising publication in esteemed English-language journals has raised concerns over the potential exclusion of non-English-speaking academics within the realm of scientific literature (Bahji et al., 2023). While certain scholars proficient in many languages perceive the use of English as a means to engage a wider academic audience outside their own local context, language, or research group, insufficient consideration is being given to the potential drawbacks associated with this emphasis on English.

Table 4: Languages Used for Publications

Language	Total Publications	Percentage (%)
English	647	96.57%
Spanish	5	0.75%
Chinese	3	0.45%
German	3	0.45%
French	2	0.30%
Polish	2	0.30%
Bosnian	1	0.15%
Czech	1	0.15%
Dutch	1	0.15%

Greek	1	0.15%
Persian	1	0.15%
Russian	1	0.15%
Slovak	1	0.15%
Turkish	1	0.15%
Total		100.00

4.4 Subject Area

Table 5 reveals a multifaceted investigation of subject areas in this discipline, including Business, Management, and Accounting, Computer Science and Decision Sciences, Engineering, Economics, Econometrics, and Finance, Environmental Science, and Energy. In addition, the study incorporates interdisciplinary research from fields including Arts and Humanities, Health Professions, and Immunology and Microbiology. A notable observation is the significant presence of research articles within the Business, Management, and Accounting domain, which accounts for 57.19% (378 publications) of the total. This concentration reflects the enduring relevance of employee motivation and performance in the organisational context, highlighting its central role in the success and efficacy of businesses and management practices (Uka & Prendi, 2021).

Table 5: Subject Area

Subject Area	Total Publications	Percentage (%)
Agricultural and Biological Sciences	11	1.66%
Arts and Humanities	28	4.24%
Biochemistry, Genetics and Molecular Biology	4	0.61%
Business, Management and Accounting	378	57.19%
Chemical Engineering	4	0.61%
Computer Science	79	11.95%
Decision Sciences	70	10.59%
Earth and Planetary Sciences	4	0.61%
Economics, Econometrics and Finance	104	15.73%
Energy	23	3.48%
Engineering	91	13.77%
Environmental Science	41	6.20%
Health Professions	3	0.45%
Immunology and Microbiology	2	0.30%
Materials Science	4	0.61%

In addition, the study reveals that Computer Science and Decision Sciences contribute a total of 11.95%, highlighting the intersection of technology and human performance. With 13.77%, the Engineering discipline emphasises the importance of this research in optimising industrial and engineering processes. Economics, Econometrics, and Finance, with 15.73%, demonstrates the extensive economic implications of employee motivation and performance, emphasising the far-reaching effects of these factors on financial outcomes. Environmental Science and Energy, each contributing 6.20% and 3.48%, respectively, highlight the ecological and energy-related aspects of this study, recognising the environmental sustainability aspect of employee motivation and performance (Uka & Prendi, 2021). The inclusion of Arts and Humanities, Health Professions, and Immunology and Microbiology in this study underscores the interdisciplinary nature of this research. This inter-disciplinary investigation enhances the comprehension of how motivation and performance transcend traditional disciplinary boundaries and have a wide-ranging impact on human life and society.

4.5 Most Active Source Titles

Table 6 provides a comprehensive listing of publications and their respective sources. A notable source is "Sustainability Switzerland," which contains 14 articles, or about 2.12% of the total number of publications. This journal contributes significantly to the advancement of research at the intersection of sustainability, employee motivation, and employee performance (Nimsai et al., 2020). Another noteworthy source is "Evidence-Based HRM," which includes 10 publications (approximately 1.51%) and functions as a key platform for research based on empirical evidence, significantly contributing to the evidence-based understanding of these important topics (Lee & Raschke, 2016). Eight publications (approximately 1.21%) are attributed to both the "International Journal of Human Resource Management" and the "Proceedings of the International Conference on Industrial Engineering and Operations Management." (Nimsai et al., 2020) These sources play a crucial role in the dissemination of research findings within the broader context of human resource management and industrial engineering.

Other sources, including "Frontiers in Psychology," "Emerald Emerging Markets Case Studies," and "Employee Relations," each contain six articles (approximately 0.91% and 0.76%, respectively), illustrating the multidisciplinary nature of the research, which incorporates psychological, business, and management perspectives. Other sources, such as "Asian Social Science," "European Journal of Training and Development," "Journal of Applied Psychology," and "Mediterranean Journal of Social Sciences," contribute 0.61% (4 publications) to the total, highlighting the interdisciplinary nature of research in the field, which draws from the social sciences, psychology, and business studies (Nimsai et al., 2020).

Table 6: Most Active Source Title

Source Title	Total Publications	Percentage (%)
Sustainability Switzerland	14	2.12%
Evidence Based Hrm	10	1.51%
International Journal of Human Resource Management	8	1.21%
Proceedings of the International Conference on Industrial Engineering and Operations Management	8	1.21%
Frontiers in Psychology	6	0.91%
Emerald Emerging Markets Case Studies	5	0.76%
Employee Relations	5	0.76%
Asian Social Science	4	0.61%
European Journal of Training and Development	4	0.61%
International Journal of Mechanical Engineering and Technology	4	0.61%
Journal of Applied Psychology	4	0.61%
Mediterranean Journal of Social Sciences	4	0.61%
Personnel Review	4	0.61%
Polish Journal of Management Studies	4	0.61%
Problems and Perspectives in Management	4	0.61%

4.6 Keywords Analysis

Table 7 presents a complete analysis of the author keywords. The term "Motivation" has the highest frequency, being present in 186 articles, accounting for 28.14% of the total. The topic of "Employee Motivation" has been extensively explored in 168 papers, accounting for around 25.42% of the total. In a comparable manner, the concept of "Employee Performance" has been given prominence in a total of 55 publications, accounting for around 8.32% of the overall literature. The term "performance" holds substantial importance, as it is featured in 54 articles, accounting for 8.17% of the total. The concept of "job satisfaction"

has been referenced in a total of 49 publications, accounting for approximately 7.41% of the overall literature.

The term "Motivation" exhibits the greatest frequency, suggesting the significant importance of motivation as a core element in comprehending employee behaviour and performance. Additionally, the phrase "Employee Motivation" emphasises the particularity of the research focus on motivation in the context of employees. Likewise, the significance of "Employee Performance" is underscored, elucidating the intricate relationship between motivational elements and tangible job outcomes (Okine et al., 2021). The term "performance" holds considerable importance, as it indicates a prevailing focus on evaluating and enhancing different aspects of performance within organisational settings (Uka & Prendi, 2021). The concept of "job satisfaction" is referenced, highlighting the correlation between motivation and the happiness individuals experience in their work. This connection has a direct impact on employee engagement and productivity (Lee & Raschke, 2016).

Table 7: Top Keyword

Author Keywords	Total Publications	Percentage (%)
Motivation	186	28.14%
Employee Motivation	168	25.42%
Employee Performance	55	8.32%
Performance	54	8.17%
Job Satisfaction	49	7.41%
Human	47	7.11%
Human Resource Management	43	6.51%
Employee	39	5.90%
Leadership	38	5.75%
Job Performance	34	5.14%
Humans	31	4.69%
Article	30	4.54%
Organisational Performance	26	3.93%
Performance Management	21	3.18%
Surveys	21	3.18%
Employment	20	3.03%
Organisation	20	3.03%
Intrinsic Motivation	19	2.87%
Male	19	2.87%
Management	19	2.87%

Type of analysis = Co-occurrence
Unit of analysis = All keywords
Counting method = Full counting
Minimum number of occurrences of a keyword = 3
Number of keywords to be selected = 285

Fig. 3 depicts the author keyword word cloud. The size of each term indicates the frequency with which the keywords appear. Motives is the primary keyword with numerous occurrences. In addition, more keywords such as Performance, Satisfaction, Employee, Work, Organisational, Human, Social, Manager, Culture, and Job can be seen in the word cloud. Despite their small size, additional keywords have been used to accommodate the topic of employee motivation for the years 2004 to 2023.



Figure 3: Word Cloud of the Author Keywords

4.7 Geographical Distribution of Publications - Most Influential Countries

Table 8 provides a good overview of the geographic distribution of publications in the field of employee motivation and performance. The United States assumes a prominent position, representing a significant 18.15% (120 publications) of the overall total. The prevalence observed can be attributed to the substantial contribution of the United States in developing scholarly research and promoting the progression of knowledge within this particular domain. India is ranked second with a notable share of 7.72% (51 publications) of the total. The academic community in India is experiencing notable growth and actively engaging in research efforts that make substantial contributions to the global debate on employee motivation and performance (Nimsai et al., 2020). The United Kingdom demonstrates a significant contribution of 7.11% (47 publications), highlighting its notable engagement in scholarly endeavours pertaining to certain subject matters (McGregor & Doshi, 2015). Germany is a notable participant, accounting for 5.75% (38 articles), so expanding the global pool of knowledge about employee motivation and performance.

Table 8: Top 20 Countries Contributed to the Publications

Country	Total Publications	Percentage (%)	Country	Total Publications	Percentage (%)
United States	120	18.15%	South Korea	20	3.03%
India	51	7.72%	Netherlands	19	2.87%
United Kingdom	47	7.11%	Canada	18	2.72%
Germany	38	5.75%	South Africa	17	2.57%
China	36	5.45%	Turkey	17	2.57%
Indonesia	36	5.45%	Pakistan	16	2.42%
Malaysia	32	4.84%	Greece	15	2.27%
Australia	23	3.48%	Thailand	15	2.27%
Slovakia	22	3.33%	Iran	14	2.12%
Romania	21	3.18%	Czech Republic	13	1.97%

"China" and "Indonesia" share a similar contribution, each representing 5.45% of the total publications, showcasing their commitment to researching and understanding the dynamics of motivation and performance in diverse contexts (Shkoler & Kimura, 2020). "Malaysia" constitutes a significant portion, contributing 4.84%, and plays a valuable role in expanding the global research landscape on these crucial topics. "Australia" is another notable contributor, accounting for 3.48% of the publications, actively engaging in exploring the intricacies of employee motivation and performance. "Slovakia" rounds out the list of

substantial contributors with 3.33% representation, demonstrating the country's active participation in the scholarly conversation surrounding these subjects (Nimsai et al., 2020).

4.8 Authorship

Table 9 provides a comprehensive overview of the scholastic contributions made by different authors in the field of employee motivation and performance research. The authors have substantially advanced academic discourse in this field. "Hitka, M." emerges as the most prolific contributor, with an extraordinary total of 12 publications, representing approximately 1.82% of the total number of publications. Hitka's substantial body of work demonstrates his commitment to advancing knowledge in this field. "Lorincová, S." follows closely behind with eight publications, representing 1.21% of the total. (Vo et al., 2022). Lorincová's body of work demonstrates a profound engagement with the complexities of employee motivation and performance.

Several other authors, including "Forest, J.," "Balázová," "Chahar, B.," "Foss, N.J.," "Hamidi, Y.," "Najafi, L.," and "Vatankhah, S.," have made significant contributions to the field by publishing at least three articles (Vo et al., 2022). Their collective efforts considerably contribute to the many facets of employee motivation and performance research. "Aigbavboa, C.," "Alsakarneh, A.," "Antoni, C.H.," "Austin, S.," and "Avasilcai, S." have authored two documents each (0.30% each). Their work exemplifies the interdisciplinary nature of research in this field, as it addresses various facets of employee motivation and performance.

Table 9: Most Productive Authors

Author's Name	No. of Documents	Percentage (%)
Hitka, M.	12	1.82%
Lorincová, S.	8	1.21%
Forest, J.	4	0.61%
Balázová, Ž.	3	0.45%
Chahar, B.	3	0.45%
Foss, N.J.	3	0.45%
Hamidi, Y.	3	0.45%
Najafi, L.	3	0.45%
Vatankhah, S.	3	0.45%
Aigbavboa, C.	2	0.30%
Alsakarneh, A.	2	0.30%
Antoni, C.H.	2	0.30%
Austin, S.	2	0.30%
Avasilcai, S.	2	0.30%
Baeten, X.	2	0.30%

The authors' contributions to employee motivation and performance research have significantly enriched the academic discourse, highlighting the multidisciplinary nature of the field. Each author brings unique insights, contributing to a deeper understanding of the factors influencing employee behaviour and performance. Their collective efforts have advanced various dimensions of research in this area, enhancing overall comprehension of this vital field of study (Bendoly et al., 2015; Lee & Raschke, 2016).

4.9 Most Influential Institutions

Table 10 provides a comprehensive overview of the significant contributions made by academic institutions to this field of study. Institutions have played a crucial role in the advancement of knowledge in this discipline. The "Technical University of Zvolen" emerges as the most prolific institution, with a notable 14 publications, constituting approximately 2.14% of the total publications. This institution's substantial body of work demonstrates its commitment to research on employee motivation and performance. Close behind are several

institutions, each with six publications, including "Erasmus Universiteit Rotterdam," "Université du Québec à Montréal," "Curtin University," and "Bucharest University of Economic Studies," which each contribute 0.91% to the total. These institutions have made substantial contributions, which demonstrates their commitment to investigating the complexities of this research field.

In addition, the "University of Illinois Urbana-Champaign," "Univerzita Komenského v Bratislava," "The Hong Kong Polytechnic University," and "Islamic Azad University" have produced five publications each, accounting for 0.76% of the total. The consistency of their research output enriches the academic discourse on employee motivation and performance. Furthermore, the "University of Johannesburg," "University of South Africa," "Universiti Teknologi MARA," "Univerzita Tomáše Bati ve Zlin," "State University of New York Albany," and "Athens University of Economics and Business" have each contributed four publications, accounting for 0.61% of the total. These institutions have contributed significantly to the diversity of perspectives and insights in this field.

Academic institutions play a significant role in advancing research on employee motivation and performance, enriching the scholarly dialogue. Their contributions underscore the interdisciplinary nature of this field, offering diverse perspectives and ideas. The research output from these institutions reflects a deep commitment to exploring the complexities of employee motivation and performance, enhancing our understanding of the factors influencing employee behaviour and performance (Vo et al., 2022).

Table 10: Most Influential Institutions with a Minimum of Four Publications

Institution	Total Publications	Percentage (%)
Technical University in Zvolen	14	2.12%
Erasmus Universiteit Rotterdam	6	0.91%
Université du Québec à Montréal	6	0.91%
Curtin University	6	0.91%
Bucharest University of Economic Studies	6	0.91%
University of Illinois Urbana-Champaign	5	0.76%
Univerzita Komenského v Bratislave	5	0.76%
The Hong Kong Polytechnic University	5	0.76%
Islamic Azad University	5	0.76%
University of Johannesburg	4	0.61%
University of South Africa	4	0.61%
Universiti Teknologi MARA	4	0.61%
Univerzita Tomáše Bati ve Zlině	4	0.61%
State University of New York Albany	4	0.61%
Athens University of Economics and Business	4	0.61%

4.10 Citation Analysis

Table 11 provides a summary of important citation metrics. The "Publication years" extend from 2004 to 2023, comprising a two-decade-long period of sustained scholarly activity. "Citation years" denote the entire number of years during which citations were tracked, spanning 20 years from 2004 to 2023, emphasising the durability of the research's impact. "Citations" refers to the total number of citations received by these publications, which total 13,378. The value of 704.11 for "Citations/year" represents the average number of citations received per year over the past two decades. The calculated value of 20.24 for "Citations/paper" represents the average number of citations per individual publication. At 6580.61, "Citations/author" is notably high. The value of 321.85 for "Papers/author" reveals the average number of papers authored by each researcher. The "h-index" is 53, which indicates that 53 publications have received at least 53 citations each. The "g-index" is 103, indicating that the top 103 papers received at least 103 citations collectively.

The high number of citations in this field indicates the academic community's recognition and the influence of research findings. Metrics such as average citations per year and per paper reflect sustained interest and engagement in this area. The high citations per author underscore the prolific research output and individual contributions. Metrics like the "h-index" and "g-index" gauge the impact and influence of highly cited and influential publications. These citation metrics are valuable for assessing research impact, identifying future research areas, and evaluating scholarly contributions (Agarwal et al., 2016; Britt & Greene, n.d.; Kişi, 2023; Gunashekar et al., 2015).

Table 11: Citations Metrics

Metrics	Data
Publication years	2004-2023
Citation years	20 (2004-2023)
Papers	661
Citations	13378
Citations/year	704.11
Citations/paper	20.24
Citations/author	6580.61
Papers/author	321.85
h-index	53
g-index	103

Table 12 presents a compilation of significant scholarly works produced by multiple academicians, along with pertinent information such as the title, publication year, number of citations, and average number of citations per year. The 2006 article by Branco and Rodrigues titled "Corporate social responsibility and resource-based perspectives" has received a total of 1047 citations, with an average of 61.59 citations per year. The article titled "Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis" published in 2014 by C.P. Cerasoli, J.M. Nicklin, and M.T. Ford has received an impressive total of 926 citations, demonstrating an outstanding annual average of 102.89 citations.

The article "A Conceptual Review of Human Resource Management Systems in Strategic Human Resource Management Research" authored by D.P. Lepak, H. Liao, Y. Chung, and E.E. Harden in 2006 has received a total of 643 citations, averaging 37.82 citations per year. The 2004 article titled "Self-esteem within the work and organisational context: A review of the organisation-based self-esteem literature" by J.L. Pierce and D.G. Gardner has received a total of 583 citations, resulting in an annual average of 30.68 citations. The citation counts of the remaining publications are also substantial, demonstrating the scholarly community's recognition of these works. The publications cover a variety of topics related to employee motivation and performance, such as leadership, goal orientation, confidence development, and the use of digital games.

The high citation rates of publications in this field indicate significant recognition and impact within the academic community (Comaford, 2018). Average citations per year and per paper suggest sustained interest and engagement in this research area. High citations per author highlight both prolific research output and substantial individual contributions to the field (Fox & Nikivincze, 2021). Metrics like the "h-index" and "g-index" assess the influence and impact of highly cited and influential publications. These citation metrics are valuable for gauging research impact, identifying future research directions, and evaluating scholarly contributions (Agarwal et al., 2016).

Table 12: Highly Cited Articles

No.	Authors	Title	Year	Cites	Cites per Year
1	M.C. Branco, L.L. Rodrigues	Corporate social responsibility and resource-based perspectives	2006	1047	61.59
2	C.P. Cerasoli, J.M. Nicklin, M.T. Ford	Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis	2014	926	102.89
3	D.P. Lepak, H. Liao, Y. Chung, E.E. Harden	A Conceptual Review of Human Resource Management Systems in Strategic Human Resource Management Research	2006	643	37.82
4	J.L. Pierce, D.G. Gardner	Self-esteem within the work and organisational context: A review of the organisation-based self-esteem literature	2004	583	30.68
5	R.F. Piccolo, R. Greenbaum, D.N. den Hartog, R. Folger	The relationship between ethical leadership and core job characteristics	2010	454	34.92
6	L. Dragoni	Understanding the emergence of state goal orientation in organisational work groups: The role of leadership and multilevel climate perceptions	2005	264	14.67
7	A. Joshi, M.B. Lazarova, H. Liao	Getting everyone on board: The role of inspirational leadership in geographically dispersed teams	2009	197	14.07
8	D. Liu, X. Li, R. Santhanam	Digital games and beyond: What happens when players compete?	2013	187	18.7
9	J.-Y. Son	Out of fear or desire? Toward a better understanding of employees' motivation to follow IS security policies	2011	181	15.08
10	A.D. Stajkovic	Development of a core confidence-higher order construct	2006	174	10.24

5.0 CONCLUSION

This bibliometric analysis illuminates the employee motivation and performance research landscape. Articles dominate publications, reflecting the topics' scholarly importance. Conference papers indicate practical research applications. Prolific authors and source titles were identified, showcasing influential voices and platforms. "Motivation" and "performance" keywords are central, underscoring their organisational studies significance.

This study, despite its contributions, has limitations. The study concentrated on bibliometric indicators but did not delve into more sophisticated data analysis techniques, such as network analysis or sentiment analysis, that could have provided a deeper understanding of research trends and themes. In addition, the selection of the Scopus database may have introduced bias, as its coverage differs from that of other databases. These limitations should be considered in future research.

With regards to the implications of this study, the primary findings hold substantial relevance for practitioners and managers, as it sheds light on the extensive body of research pertaining to employee motivation and performance. Gaining insight into the primary contributors and influential sources can be advantageous in the process of decision-making and the execution of strategies aimed at improving worker motivation and performance. This investigation provides more support for the fundamental significance of motivation and performance within the realm of organisational studies, from a theoretical standpoint. This highlights the necessity for additional investigation into the complex interconnections among

these factors and the possibility of employing multidisciplinary methodologies to enhance theoretical frameworks within this discipline.

Future research could benefit from longitudinal studies tracking changes in employee motivation and performance over time, cross-cultural investigations into the influence of culture on motivation and performance, and examinations of how technology impacts motivation and performance in remote work settings. Additionally, studies could explore the impact of different leadership styles on motivation and performance, investigate the relationship between employee well-being and performance, and analyse how organisational culture and job design affect motivation and performance. Further research could also delve into employee engagement, performance measurement and feedback, and the effectiveness of training and development programs in enhancing motivation and performance.

Furthermore, future research should also consider conducting comparative studies across multiple databases to shed light on coverage variations. In addition, investigating the interdisciplinarity of employee motivation and performance research could provide a more comprehensive perspective.

ACKNOWLEDGEMENT

The authors would like to express their gratitude to all those who contributed to the completion of this study. Special thanks to RMZ, AA, SA, YA, and FNA for their invaluable insights and contributions to the research and preparation of this paper. Their expertise and dedication greatly enriched the quality of this work.

CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest regarding the publication of this study.

CO-AUTHOR CONTRIBUTION

RMZ interpreted the results and wrote the discussions, while AA contributed to the introduction, conclusion, abstract, and methodology. SA conducted the literature reviews, and YA and FNA contributed to the introduction and methodology. All authors reviewed and approved the final manuscript.

REFERENCES

- Agarwal, A., Durairajanayagam, D., Tatagari, S., Esteves, S. C., Harlev, A., Henkel, R., Roychoudhury, S., Homa, S., Puchalt, N. G., Ramasamy, R., Gosalvez, J., & Bashiri, A. (2016). Bibliometrics: Tracking research impact by selecting the appropriate metrics. *Asian Journal of Andrology*, 18(2), 296–309. <https://doi.org/10.4103/1008-682X.171582>
- Ahmi, A., & Mohd Nasir, M. H. (2019). Examining the trend of the research on extensible business reporting language (XBRL): A bibliometric review. *International journal of innovation, creativity, and change*, 5(2), 1145-1167.
- Aidi Ahmi, R. M. (2019). Bibliometric analysis of global scientific literature on web accessibility. *International Journal of Recent Technology and Engineering (IJRTE)*, 7(6), 250-258.
- Alhemp, R. R., Sudirman, & Supeno, B. (2021). Effect of training and motivation on employees performance of The Environment and Forestry Department of Riau Province. *Husnayain Business Review*, 1(1), 60–68. <https://doi.org/10.54099/hbr.v1i1.8>
- Anyim, W. O., & Onyegbula, M. (2021). Review of motivational practices and job performance of staff in university libraries. *Library Philosophy and Practice*. <https://digitalcommons.unl.edu/libphilprac>.
- Asriani, A., Lorensa, D., Saputri, P., & Hidayati, T. (2020). The effect of compensation and motivation to employee performance. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 4(1), 166–172. <https://jurnal.stie-aas.ac.id/index.php/IJEBAR>.
- Bahji, A., Acion, L., Laslett, A. M., & Adinoff, B. (2023). Exclusion of the non-English-speaking world from the scientific literature: Recommendations for change for addiction journals and publishers. *NAD Nordic Studies on Alcohol and Drugs*, 40(1), 6–13. <https://doi.org/10.1177/14550725221102227>.
- Bendoly, E., Van Wezel, W., & Bachrach, D. G. (Eds.). (2015). *The handbook of behavioral operations management: Social and psychological dynamics in production and service settings*. Oxford University Press.
- Branco, M. C., & Rodrigues, L. L. (2006). Corporate social responsibility and resource-based perspectives. *Journal of Business Ethics*, 69(2), 111–132. <https://doi.org/10.1007/s10551-006-9071-z>.
- Britt, R., & Greene, A. (n.d.). Bibliometrics: A key performance indicator in assessing the influence of biomedical research. *Publication in Top*, 14(9). <https://doi.org/10.1371/journal.pbio.1002541>.
- Carvalho, A. da C., Riana, I. G., & Soares, A. de C. (2020). Motivation on job satisfaction and employee performance. *International Research Journal of Management, IT & Social Sciences*, 7(5), 13–23. <https://doi.org/10.21744/irjmis.v7n5.960>.
- Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin*, 140(4), 980–1008. <https://doi.org/10.1037/a0035661>.
- Chen, C. J., Lee, H. Y., Lin, R. J., & Farng, J. K. (2022). A bibliometric analysis on motivation between 2016 and 2020 of Physical Education in Scopus database. *Frontiers in Education*, 7, 1–14. <https://doi.org/10.3389/feduc.2022.900000>.
- Ciano, M. P., Pozzi, R., Rossi, T., & Strozzi, F. (2019). How IJPR has addressed 'lean': a literature review using bibliometric tools. *International Journal of Production Research*, 57(15-16), 5284-5317. <https://doi.org/10.1080/00207543.2019.1566667>.
- Comaford, C. (2018). Why leaders need to embrace employee motivation. *Forbes*.
- Dabirian, A., Diba, H., Tareh, F., & Treen, E. (2016). A 23-year bibliometric study of the journal of food products marketing. *Journal of Food Products Marketing*, 22(5), 610-622.
- Dragoni, L. (2005). Understanding the emergence of state goal orientation in organisational work groups: the role of leadership and multilevel climate perceptions. *Journal of Applied Psychology*, 90(6), 1084–1095. <https://doi.org/10.1037/0021-9010.90.6.1084>.

- Ekundayo, O. A., & Ayo, J. (2018). The impact of motivation on employee performance in selected insurance companies in Nigeria. *International Journal of African Development*, 5(1), 31–42. <https://scholarworks.wmich.edu/ijad/>.
- Fox, M. F., & Nikivincze, I. (2021). Being highly prolific in academic science: Characteristics of individuals and their departments. *Higher Education*, 81(6), 1237–1255. <https://doi.org/10.1007/s10734-020-00609-z>.
- Girdwichai, L., & Sriviboon, C. (2020). Employee motivation and performance: Do the work environment and the training matter? *Journal of Security and Sustainability Issues*, 9, 42–54. [https://doi.org/10.9770/JSSI.2020.9.J\(4\)](https://doi.org/10.9770/JSSI.2020.9.J(4)).
- Gunasekar, S., Lavoie, R., Roberge, G., Rashid, M., & Marjanovic, S. (2015). *A bibliometric analysis of research by the Cambridge Neuroscience Strategic Research Initiative: Extended Summary*. www.rand.org/giving/contribute.
- Hultgren, A. K. (2019). English as the language for academic publication: On equity, disadvantage and “non-nativeness” as a red herring. *Publications*, 7(2). <https://doi.org/10.3390/publications7020031>.
- Imsa-Ard, P. (2020). Motivation and attitudes towards English language learning in Thailand: A large-scale survey of secondary school students. *REFlections*, 27(2), 140–161.
- Joshi, A., Lazarova, M. B., & Liao, H. (2009). Getting everyone on board: The role of inspirational leadership in geographically dispersed teams. *Organisation Science*, 20(1), 240–252. <https://doi.org/10.1287/Orsc.1080.0383>.
- Kiş, N. (2023). Bibliometric analysis and visualization of global research on employee engagement. *Sustainability*, 15(13), 10196. <https://doi.org/10.3390/su151310196>.
- Kojima, N. (2023). Significance of L2 and L3 motivation in the context of an English-taught program: A preliminary study at a Japanese university. *Education Sciences*, 13(5). <https://doi.org/10.3390/educsci13050429>.
- Kuswati, Y. (2020). The effect of motivation on employee performance. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 3(2), 995–1002. <https://doi.org/10.33258/birci.v3i2.928>.
- Lee, M. T., & Raschke, R. L. (2016). Understanding employee motivation and organisational performance: Arguments for a set-theoretic approach. *Journal of Innovation and Knowledge*, 1(3), 162–169. <https://doi.org/10.1016/j.jik.2016.01.004>.
- Lepak, D. P., Liao, H., Chung, Y., & Harden, E. E. (2006). A conceptual review of human resource management systems in strategic human resource management research. *Research in Personnel and Human Resources Management*, 25, 217–271. [https://doi.org/10.1016/S0742-7301\(06\)25006-0](https://doi.org/10.1016/S0742-7301(06)25006-0).
- Leydesdorff, L., & Vaughan, L. (2006). Co-occurrence matrices and their applications in information science: Extending ACA to the web environment. *Journal of the American Society for Information Science and Technology*, 57(12), 1616–1628. <https://doi.org/10.1002/asi.20335>.
- Liu, D., Li, X., & Santhanam, R. (2013). Digital games and beyond: What happens when players compete? *MIS Quarterly*, 37(1), 111–124. <https://doi.org/10.25300/MISQ/2013/37.1.05>.
- Liu, W. (2017). The changing role of non-English papers in scholarly communication: Evidence from web of science’s three journal citation indexes. *Learned Publishing*, 30(2), 115–123. <https://doi.org/10.1002/leap.1089>.
- Luthra, R. K., & Ranganathan, S. (2023). Effect of employee performance appraisal and motivation strategy in the IT Industry. In *Emerging Contours of Business & Management*. <https://svdes.co.in/bookserieschapters.php?id=1327>.
- Manzoor, F., Wei, L., & Asif, M. (2021). Intrinsic rewards and employee’s performance with the mediating mechanism of employee’s motivation. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.563070>.
- Marques, T. M. G. (2021). Research on public service motivation and leadership: A bibliometric study. *International Journal of Public Administration*, 44(7), 591–606. <https://doi.org/10.1080/01900692.2020.1741615>.

- McGregor, L., & Doshi, N. (2015). How company culture shapes employee motivation. *Harvard Business Review*, 11, 1-13.
- Nimsai, S., Yoopetch, C., & Lai, P. (2020). Mapping the knowledge base of sustainable supply chain management: A bibliometric literature review. *Sustainability (Switzerland)*, 12(18). <https://doi.org/10.3390/SU12187348>.
- Okine, G. N. B., Addeh, G. Y. A., Olusola, B. E., & Asare, I. (2021). Employee Motivation and its effects on employee productivity/ performance. *Journal of Economics and Sustainable Development*, 12(16), 99–108. <https://doi.org/10.7176/jesd/12-16-11>.
- Pangastuti, P. A. D., Sukirno, & Efendi, R. (2020). The Effect of work motivation and compensation on employee performance. *International Journal of Multicultural and Multireligious Understanding*, 7(3), 292–299. <https://doi.org/10.18415/ijmmu.v7i3.1534>.
- Piccolo, R. F., Greenbaum, R., den Hartog, D. N., & Folger, R. (2010). The relationship between ethical leadership and core job characteristics. *Journal of Organisational Behavior*, 31(2–3), 259–278. <https://doi.org/10.1002/job.627>.
- Pierce, J. L., & Gardner, D. G. (2004). Self-esteem within the work and organisational context: A review of the organisation-based self-esteem literature. *Journal of Management*, 30(5), 591–622. <https://doi.org/10.1016/j.jm.2003.10.001>.
- Rizwan, M., Tariq, M., Hassan, R., & Sultan, A. (2014). A comparative analysis of the factors effecting the employee motivation and employee performance in Pakistan. *International Journal of Human Resource Studies*, 4(3), 35. <https://doi.org/10.5296/ijhrs.v4i3.5873>.
- Shaikh, S. H., Hussain, S., Ali, T. H., & Shaikh, H. H. (2021). Bibliometric assessment of intrinsic motivation research trends of the last six decades. *Library Philosophy and Practice*. <https://digitalcommons.unl.edu/libphilprac>.
- Shkoler, O., & Kimura, T. (2020). How does work motivation impact employees' investment at work and their job engagement? A moderated-moderation perspective through an international lens. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.00038>.
- Sinambela, E. A., & Ernawati. (2021). Analysis of the role of experience, ability, and motivation on employee performance. *Journal of Social Science Studies*, 1(2), 69–74.
- Son, J.-Y. (2011). Out of fear or desire? Toward a better understanding of employees' motivation to follow IS security policies. *Information and Management*, 48(7), 296–302. <https://doi.org/10.1016/j.im.2011.07.002>.
- Stajkovic, A. D. (2006). Development of a core confidence-higher order construct. *Journal of Applied Psychology*, 91(6), 1208–1224. <https://doi.org/10.1037/0021-9010.91.6.1208>.
- Sweileh, W. M., Wickramage, K., Pottie, K., Hui, C., Roberts, B., Sawalha, A. F., & Zyoud, S. H. (2018). Bibliometric analysis of global migration health research in peer-reviewed literature (2000–2016). *BMC Public Health*, 18(1), 1-18. <https://doi.org/10.1186/s12889-018-5689-x>.
- Uka, A., & Prendi, A. (2021). Motivation as an indicator of performance and productivity from the perspective of employees. *Management and Marketing*, 16(3), 268–285. <https://doi.org/10.2478/mmcks-2021-0016>.
- Veerabbayi, K., Krishna, B. M., Rao, N. S., & Geddam, S. M. (2023). Harnessing the power of motivation: A bibliometric analysis on employee productivity through training and development. *Remittances Review*, 8(3), 79–94. <https://doi.org/10.33182/rr.v8i3.6>.
- Vo, T. T. D., Tulião, K. V., & Chen, C.-W. (2022). Work motivation: The roles of individual needs and social conditions. *Behavioral Sciences*, 12(2), 1–19. <https://doi.org/10.3390/bs12020049>.
- Waltman, L. (2016). A review of the literature on citation impact indicators. *Journal of Informetrics*, 10(2), 365–391. <https://doi.org/10.1016/j.joi.2016.02.007>.
- Williams, B. (2020). Dimensions & VOSViewer bibliometrics in the reference interview. *Code4Lib Journal*, (47).
- Zyoud, S. H., Fuchs-Hanusch, D., Zyoud, S. H., Al-Rawajfeh, A. E., & Shaheen, H. Q. (2017). A bibliometric-based evaluation on environmental research in the Arab world. *International Journal of Environmental Science and Technology*, 14, 689-706. <https://doi.org/10.1007/s13762-016-1180-3>.

THE COMPETENCY AND AWARENESS LEVEL OF ANTI-MONEY LAUNDERING & COUNTER FINANCING TERRORISM (AML/CFT) RISK JUDGMENT AMONGST MALAYSIAN BANKING COMPLIANCE OFFICERS

Muhammad Nasrul Asyraf Azli¹, Rosmawati Haron^{2*}

¹Standard Chartered Bank,
Wisma Standard Chartered, Taman Teknologi Park, 57000, Malaysia

²Faculty of Accountancy, Universiti Teknologi MARA (UiTM),
Segamat Campus, 85000, Johor, Malaysia

*Corresponding Author

Email: ¹muhammadnasrulasyraf.azli@sc.com, ²Rosma741@uitm.edu.my,

Received: 16th October 2023

Accepted: 30th January 2024

ABSTRACT

Literature studies unveiled a new issue about money laundering risk judgment, focusing on impaired decision-making to detect suspicious activities and the quality of suspicious transaction report (STR) submission to the Central Bank of Malaysia. To address this issue, the research aims to seek and to provide empirical evidence quantitatively on the different levels of competency and awareness amongst Malaysian banking compliance officers, factors that could significantly reflect their anti-money laundering and counter-financing of terrorism (AML/CFT) risk judgment outcome. The research also seeks to examine using the demographic profiles as the controlled variable to determine further the differences if demographic profiles could really play an important role in shaping AML/CFT risk judgment outcome. A series of questionnaires were distributed amongst Malaysian banking compliance officers using purposive and snowball sampling. 34 responses were returned within a month and were adequate to identify the suggested differences using non-parametric studies. The analyses of this research resulted in Malaysian banking compliance officers' competency and awareness levels being high and satisfactory. However, there were disparities amongst them derived from various demographic profiles, such as educational background which may lead to inconsistency of requirements in the compliance regulation. The limitation of this paper is that it only focuses on Malaysian banking compliance officers in view of their competency and awareness level. Future research should consider covering in much broader scope to address AML/CFT risk judgment issues and other factors that may cause poor AML/CFT risk judgment, such as the organisation's compliance program and corporate governance, training method, internal and external regulations which may lead to an impaired STR submission to the Central Bank of Malaysia.

Keywords: Anti-money Laundering, Awareness, Competency, Compliance Officers, Counter Financing of Terrorist, Risk Judgment

1.0 INTRODUCTION

Money laundering and terrorism financing are becoming serious issues and an increased threat due to the financial system's vulnerability. The money laundering issue is critical due to the effective operation of organized and transnational crime that affects a country's government, economy, and social well-being (McDowell & DAVIS, 2001). Similarly, terrorism

financing poses an even greater challenge due to terrorists' ability to use and purchase relevant weapons by transferring funds both legally and illegally through complex and innovative techniques (Acharya, 2009; Tofangnaz, 2012).

According to the Central Bank of Malaysia, money laundering converts funds such as cash and property from criminal activities to legitimize them. It is a process for cleaning 'dirty' money to disguise its criminal origin. The technique is similar to terrorist financing, where the terrorist laundered their gained assets through commercial and non-transparent trade (Forman, 2006). Both are for the commission of a crime in the future. This issue has been debated for decades on the severity of money laundering and terrorism financing that impacts the economy globally. The problem was highlighted in 1998 by the director of the International Monetary Fund (IMF), who presented the estimation that the total money being laundered was about two to five per cent of the Gross Domestic Product (GDP) (Camdessus, 1998).

The growing concerns over money laundering and terrorism financing resulted in the establishment of the Financial Action Task Force (FATF) by the G-7 summit, which was held in Paris in 1989. FATF were given the responsibilities to analyse money laundering and terrorism financing activities, proposing, measuring, and monitoring the anti-money laundering measures of its member countries and issued about forty recommendations to provide a comprehensive plan of action needed to fight against it (FATF, n.d.).

According to Isa et al. (2015), all banking institutions are now facing the vulnerability of money laundering and terrorism financing. Hence, Anti Money Laundering and Counter Financing Terrorism (AML/CFT) risk assessment is crucial, given that the bank would be exposed to a high level of risk due to the innate nature of banking operations. Ideally, a risk assessment involves making judgments about threats, vulnerabilities, and consequences; thus, appropriate judgment and balance are required in the conduct of money laundering and terrorism financing assessment (FATF, 2013). Therefore, a risk judgment is considered important to be part of its effectiveness.

Deloitte (2022) had stated that financial and credit institutions were fined almost USD 5 billion in 2022 for anti-money laundering (AML) issues, sanctions breaches, and deficiencies in their Know Your Customer (KYC) processes, bringing the total since the global financial crisis to almost USD 55 billion. Meanwhile, the U.S. Securities and Exchange Commission (SEC) has also mentioned in their press release in 2022 that they announced charges against Wells Fargo Advisors for failing to file at least 34 Suspicious Activity Reports (SARs) promptly between April 2017 and October 2021 – to which the Wells Fargo has agreed to pay USD 7 million to settle in their charges. Abdul Latif & Abdul-Rahman (2018) pointed out that two Islamic banks in Malaysia were compounded for MYR 1.05 million as the banks failed to comply with the Malaysian AMLA orders stated under Section 48 and Section 50. Based on these issues, part of the problem could be developed from the inadequacy in risk judgment conducted by the compliance officers, which may lead to an impaired STR filing and submission.

2.0 LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

2.1 Compliance Officers & Suspicious Transaction Report (STR)

As defined by the Central Bank of Malaysia, a compliance officer is mainly responsible for ensuring that the reporting institution complies with AML/CFT requirements and is obliged to report STR and cash threshold reports (CTR) to the Central Bank. The Central Bank of Malaysia has stated that compliance officers are the reference point for anti-money laundering and counter-financing terrorism matters within the reporting institution and is legally required to submit STR on behalf of the reporting institution. The STR is a fundamental element of AML/CFT measures and the obligation to report it in Malaysia was introduced in 2002

(Rahman, 2013). According to Rahman (2013), it refers to a piece of information that would alert law enforcement to which the reported activity would be deemed to be suspicious which may indicate money laundering or terrorism financing.

Before submitting the STR, compliance officers require good risk judgment during AML/CFT assessment to detect suspicious activities. To achieve this, having the right competency and good awareness level are crucial. The recruitment functions play a significant role in enhancing the success of an organisational survival in competitive business environment (Dickson & Nusair, 2010). Besides, Human Resources (HR) are one of the important aspects in a company and Setyawati et al (2023) recommend on employee training for the job performance and satisfaction. As such, competent compliance officers may be hired and further be trained to match the requirement in the compliance sector, specifically for the anti-money laundering field.

The obligation to report suspicious transaction in Malaysia was highlighted in Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (Act 613) which provide the offense of money laundering and terrorism financing and the measures to be taken for its prevention. As the compliance officers are responsible to submit the STR, they need to be properly trained for their AML/CFT risk judgment. However, there could be a gap between the senior and the junior positions, experienced and inexperienced officers, and different background of the compliance officers.

Abdul Rani et al. (2022) mentioned that every bank must appoint a supervisory compliance officer whose authority, seniority, independence, and resources are guaranteed according to the FATF Recommendation 18. The compliance officer is also known as the Money Laundering Reporting Officer (MLRO) in international jurisdictions and is the key reference point of the business when it comes to AML/CFT (KPMG MALTA, 2023; Central Bank of Ireland, 2021).

To do so, these compliance officers generally require support from the compliance unit, which serves as the second line of defence, forming the second barrier in protecting their financial institutions. They are the financial crime compliance officers or anti-money laundering (AML) analyst and are often referred to as an investigator who works to investigate and to monitor suspicious activity (Abdul Rani et al., 2022). Their main duty is to identify red flags from the investigation and incorporate these findings into STR filing. Their role reflects duties imposed by The Central Bank of Malaysia but on a collective and smaller scale. Working with the bank's appointed compliance officer, the compliance unit officers are compelled to abide by AML/CFT policies, to understand the red flags, and to draft their findings in STR. The STR is then reviewed and approved by the appointed compliance officer, who will act as the general liaison of the bank toward The Central Bank of Malaysia.

However, according to Rahman (2013), it appears that the effectiveness of the STR system seriously depends on the professional knowledge and expertise of the compliance officer. This may include the expertise of the compliance unit officers. Tarmizi et al. (2022) highlighted that there is a significant gap between the senior management's and the junior's management's attitude regarding training received. While the attitude of senior management is generally positive, the junior staff has shown that anti-money laundering activities were difficult to them due to incomprehensive training (Ahmad Tarmizi et al, 2022; Simwayi & Guohua, 2011).

According to Tarmizi et al. (2022) in AML/CFT, competency requires a lot of experience and exposure. Even professional accountants might require more time before they can adequately detect money laundering activities. Regarding this, having lack of competency and awareness may threaten the compliance officer's risk judgment in detecting suspicious activities as their expertise may differ based on working experience, awareness, education

level, and the level of risk task. Therefore, this may impact their proficiency in determining a good judgment for money laundering and terrorism financing risk. Abdul Rani et al. (2022) stated that the financial crime compliance officers are responsible for related money laundering risk in their financial institutions. They should be well equipped with competencies, knowledge, and skills to evaluate AML/CFT risk assessment.

However, the Central Bank of Malaysia highlighted in the National Risk Assessment (NRA) 2017 that there are gaps in money laundering threat within the financial institutions in terms of their anti-money laundering compliance program concerning the quality of STR. In NRA 2020, banking institutions revealed to have a very high inherent risk for both money laundering and terrorism financing while the control measures for AML/CFT procedures are considered at an acceptable rate in Malaysia.

Nevertheless, the issue has been since a concern regarding the banking institutions anti-money laundering compliance program, due to significant gaps identified in the competencies between junior and senior compliance officers, therefore it may provide an impact to the compliance officers in their AML/CFT risk judgment for the quality of STR to be submitted. For this reason, this research attempts to find the gap amongst the overall Malaysian banking compliance officers in their AML/CFT risk judgment outcome by gauging their competency and awareness level.

2.2 AML/CFT Risk Judgment

Money laundering risk judgment is crucial for compliance officers to combat money laundering crime effectively, mainly using their ability (Jamil et al. 2022). The latter would be similar to counter terrorism financing risk judgment to combat terrorism financing. Nigam et al. (2018) stated that the word "risk judgment" is critical in avoiding errors based on the information assessed.

Compliance officers must have a good judgment to detect suspicious activities related to money laundering and terrorism financing. Their judgment will allow STR to be submitted in good quality. Such compliance officers must be "fit and proper" with purity, having personal integrity, and reputation criteria with decent competency, capability, and financial integrity (Central Bank of Malaysia, n.d.). Without having good judgment, the Malaysia's financial sector would be vulnerable to both money laundering and terrorism financing crime. Therefore, a good judgment is required as it deals with both certainty and uncertainty in the risk of decision-making. This would refer to judgment decision-making (JDM). As per Jamil et al. (2022), JDM in research area particularly in the banking industry is still having a significant gap and previous studies tend to concentrate on general money laundering case. As a result, the literature would have a greater demand for the concept of risk in decision making for banking institutions. Hence, it is concluded that AML/CFT risk judgment would be essential to the rule of decision making when it comes to assess both money laundering and terrorism financing risk.

To conduct an effective risk judgment, behavioural decision theory is one of the theories that can be used to formulate, to explain and to predict the judgment and decision-making phenomena. It is a widely divisible theory into those under certainty, uncertainty, and risk, including ignorance and ambiguity (Takemura, 2014). Behavioural decision theory could identify how compliance officers make their risk judgments and decision-making to report potential money laundering and terrorism financing activities. However, the main concern is whether their risk judgment and decision-making are accurate enough to address the possible arising of money laundering and terrorism financing activities when doing an AML/CFT investigation.

2.3 Competency

According to the National Institute of Health (NIH), competencies are the knowledge, skills, abilities, and behaviours contributing to individual and organizational performance. Earning competency may increase job market competitiveness opportunities (Yunos et al., 2023). It has been consistent with the finding from Vathanophas (2006) that job competency allows an individual to carry out a task effectively and is a set of behavioural patterns in a specific function or job.

As per Siddiqui et al. (2016), there are two types of competencies: behavioural and technical. Every job may include several of each. Technical competencies are easy to judge as these are related to knowledge and skills, thus known to others. Examples of technical competencies: able to troubleshoot problems, having analytical skill, safety compliant, and can fill out reports. On the other hand, behavioural competencies are related to attitude and traits, which are very difficult to estimate. Examples of behavioural competencies would be being courteous, motivating, having supervision ability, punctuality, and maintaining confidentiality. Both are essentials for AML/CFT risk judgment.

In banking institutions, competencies are usually important to detect money laundering activities in the first stage, mainly when onboarding the new clients, and to assess their risk level before writing the STR (Isa et al., 2015). When assessing the risk of money laundering, cognitive ability of banking institutions' officers is required to determine the red flags and cues that could indicate a person as a money launderer (Isa et al., 2015). This may be even harder for terrorism financing risk assessment as the proceeds of funds may derived from legal sources (Acharya, 2009; Tofangsaz, 2012). Competence is intrinsic as it may only be gathered through job and structured training.

Abdul Latif and Abdul-Rahman (2018) argued in their research that there are still barriers to implementing effective AMLA (Anti-Money Laundering Act) controls in banking institutions in Malaysia, such as the need for expert staff and budget allocation. Thus, this may mean the banking institutions in Malaysia are still lack of competencies in AML/CFT measures despite the report in NRA 2020 by the Central Bank of Malaysia that AML/CFT controls in Malaysian banking institutions are at an acceptable rate. When a compliance officer or an expert staff is hired, their demographic factors could play an important role in determining the AML/CFT risk judgment outcome, as it would impact the quality of STR submission.

Therefore, the research would like to assess whether Malaysian banking compliance officers have differences in their competency level which may significantly reflect their AML/CFT risk judgment outcome. The rationale that competency level is selected as the independent variable as these compliance officer's competencies may differ from each other, and each of them may produce different outcomes in decision-making, thus consistent with our proposed behavioural decision theory.

H₁: There is a difference in competency level amongst banking compliance officers in Malaysia that may significantly reflect their AML/CFT risk judgment outcome.

2.4 Awareness

Awareness is the perception and state or ability to perceive, to feel, or to be conscious of events, objects, or sensory patterns and is classified without necessarily implying understanding (Ghafoor, 2012). A risk assessment would involve judgment that involves

anchoring and adjusting heuristic rules of thumb; for example, self-own knowledge will be used as the anchor while other people's knowledge will be adjusted for perceived differences in the knowledge gap, resulting in awareness. (Presutti, 1995).

In term of AML/CFT, ACAMS stated AML/CFT awareness and compliance are integral to meeting regulatory requirements. Regulated entities should ensure their employees are aware of anti-money laundering practices to identify AML/CFT risks in their day-to-day roles. As money laundering and terrorism financing are continuously increasing and changing in its *modus operandi*, involves the risk extent, and poses a threat indefinitely, banking institutions' staff need to continuously adapt to new knowledge and skills when assessing money laundering risk (Isa et al. 2015).

In Malaysian context, Shanmugam & Thanasegaran (2008) stated that Malaysia recognizes the importance of the decree that the person involved in anti-money laundering activities in financial institutions are equipped with the necessary expertise and skill. They concluded that continuous training programs are conducted, which include AML/CFT investigative skills and awareness, forensic accounting, policy formulation, suspicious transactions analysis, asset forfeiture and mutual legal assistance for criminal matters.

Even so, this is inconsistent with the findings from Omar et al. (2015), which had stated that there is less much of awareness campaign by the Central Bank of Malaysia to educate the Designated Non-Financial Businesses and Professions (DNFBPs), which has led to inadequate knowledge in the accounting profession to submit the STR. These findings could be adversely applied to compliance officers and other professionals such as lawyers and auditors, which require their abilities to mitigate the potential of money laundering threats and submit the STR. The deputy governor of the Central Bank of Malaysia commented in *The Star Malaysia* newspaper (2023) that company secretaries from DNFBP's sectors only submitted an average of 11 STRs annually which is a concern as there are more than 4,000 company secretaries in Malaysia.

Regardless, Abdul Latif and Abdul-Rahman (2018) stated that the Malaysian banks compliance staff still yet to develop proper AML/CFT awareness and concluded the outcome of their qualitative research; that banks can collaborate with local media to increase public awareness and education regarding money laundering and terrorism financing to ensure that the public is aware of the effects and consequences if they are involved in financial crime. Secondly, the banks should also invest in employee training program to increase AML awareness and sufficient resources in the compliance unit. This is important as the current trend of money laundering and terrorism activities involves digital assets and cryptocurrencies, which now causes a new global concern and require a new kind of assessment and skills (Hossain, 2023). Thus, continuous awareness campaigns in AML/CFT must be conducted to ensure Malaysian banking compliance officers are adequately aware of multiple latest trends and could build their competencies and skills.

According to Tarmizi et al. (2023), in money laundering, knowledge of business, finance, and accounting will attract money launderers to approach professional accountants to assist them in money laundering activities. Money launderers opt for professionals like accountants and lawyers to facilitate their activities due to their comprehensive knowledge and awareness level to avoid being suspected of their financial crime activities. Sallaberry et al. (2023) mentioned that those from different backgrounds other than accounting may produce low awareness rates and continue to contribute to low STR reporting rates. In term of banking staffs, incompetencies hired in the bank's institutions may cause an impact in the Malaysian financial stability due to their low awareness in AML/CFT measures.

Therefore, the research would like to assess whether Malaysian banking compliance officers have differences in their awareness level which may significantly reflect their AML/CFT risk judgment outcome. The rationale awareness level was selected as the independent variable for this research as their awareness may differ from each other due to factors of exposure to AML/CFT risk and practices such as training, knowledge, and education. Each of them may produce different outcomes in decision-making. This supported our proposed behavioural decision theory to which the compliance officers may at least be aware of some training, knowledge, and education regarding AML/CFT field.

H₂: There is a difference in awareness level amongst banking compliance officers in Malaysia that may significantly reflect their AML/CFT risk judgement outcome.

3.0 METHODOLOGY

This research employs comparative quantitative method as it is appropriate to identify the differences in competency and awareness level amongst Malaysian banking compliance officers in their AML/CFT risk judgment. The objectives of this research are to examine both competency and awareness levels amongst the Malaysian banking compliance officers that could significantly reflect their AML/CFT risk judgment outcome and to explore the differences in their competency and awareness based on demographic factors such as gender, age, highest qualification, AML/CFT accreditation, working experience, educational background, and position.

A comparison is made among them to note the significance via the use of mathematical representation, including functional relations between variables. The research framework was then developed and solely focused on the competency and awareness level as the independent variables. These variables were chosen as they have a certain degree of relationship with AML/CFT risk judgment which is the dependent variable. The dependent variable would not have any measurement measured but the independent variables will be measured amongst the compliance officers as the result of significant differences may reflect the outcome of their AML/CFT risk judgment. Moreover, level was added to each independent variables to indicate a scale in them.

The demographic factors are also used and acted as the controlled variable in this research which are gender, age, highest qualification, educational background, AML/CFT Accreditation, work experience and position. The rationale of the demographic factors was selected as each could be compared within their respective groups to provide significant differences in competency and awareness that may reflect in AML/CFT risk judgment outcome. In the outcome of this research, both competency and awareness level will be measured along with demographic factors to note if demographic factors could play an important role to further determine and reflect AML/CFT risk judgment outcome.

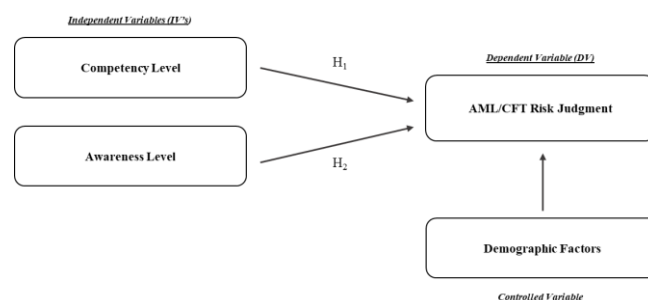


Fig 1. Research Framework

For data collection, the research was designed by having three sections in the measurement questionnaire. Section A covered the demographic profiles, Section B covered the Competency Level, and Section C covered the Awareness Level. There is no measurement for AML/CFT risk judgment as the result from competency and awareness level will significantly reflect the AML/CFT risk judgment outcome. The questionnaires contain 16 questions for competency level and 14 questions for awareness level instruments, resulting in 30 questions for both variables. The demographic profiles were also covered in ratio and categorical scale to identify groups among the bank's compliance officers via 7 sections which are gender, age, highest qualification, educational background, AML/CFT accreditation, working experience and position.

The set of instruments on competency and awareness were replicated and modified from Khan et al. (2021) and Omar et al. (2015) to suit the measurement better. Interval and 5 Likert scales (1-5) were utilized in the questionnaire for both independent variables. The compliance officers were asked to rate their responses based on a five-point Likert scale from 1-5 in which '1' indicates strongly disagree while '5' indicates strongly agree. The level of competency and awareness will be measured from 1-5 which '1' indicates as unacceptable, '2' indicates as weak, '3' indicates as normal, '4' indicates as satisfactory and '5' indicates as excellent. The questionnaires were distributed to 120 compliance officers between May-June 2023 and thirty-four responses were returned within a month. This sample size, however, is considered adequate based on the rule of thumb, focusing sample sizes of more than 30 and less than 500, which would be acceptable for most research (Roscoe, 1975; Omar et al., 2015).

4.0 RESULTS & DISCUSSIONS

Table 1 shows the demographic profiles of 34 respondents in this research. The respondent's gender was equal, having 17 counts for both male and female. For age, there are three definite age groups: 21-30 years old (14 counts, 41.2%), 31-40 years old (17 counts, 50%) and 41-50 years old (3 counts, 8.8%).

The highest qualification has four types: the Diploma, Bachelor's Degree, Master's Degree and Others. Diploma holders have 2 counts (5.9%) from the 34-sample size. Bachelor Degree holders have 20 counts (58.8%) of respondents, being the highest to participate in this research. Master's Degrees have 10 counts (29.4%), while another type of Highest Qualification has 2 counts (5.9%) to participate in this research. The result indicates that bank compliance officers in Malaysia were at least to have a Bachelor's Degree as their Highest Qualification to perform the job. The educational backgrounds have six types of fields: Accounting, Business & Management, Engineering, Media & Creative Arts, Medical & Healthcare and Others. Respondents with an Accounting background represent 3 counts (8.8%), while Business & Management has 10 counts of respondents (29.4%) in this 34-sample size. Each educational background in the Engineering, Media & Creative Arts and Medical Healthcare fields has only 1 respondent (2.9%). Surprisingly, Other types of education background were among the most, with 18 counts (52.9%) in total in the sample size. This could indicate that there is no requirement for specific educational background for bank's compliance officers in Malaysia to be hired to perform AML/CFT functions as opposed to Accounting and Business & Management fields which would be the most appropriate and relevant to the job sector.

Table 1. Demographic Profiles

		<i>Frequency (N)</i>	<i>Frequency (N %)</i>
Gender	Male	17	50.0%
	Female	17	50.0%
	Total	N: 34	
Age	21-30 years old	14	41.2%
	31-40 years old	17	50.0%
	41-50 years old	3	8.8%
	Total	N: 34	
Highest Qualification	Diploma	2	5.9%
	Bachelor's degree	20	58.8%
	Master's degree	10	29.4%
	Others	2	5.9%
	Total	N: 34	
Educational Background	Accounting	3	8.8%
	Business & Management	10	29.4%
	Engineering	1	2.9%
	Media & Creative Arts	1	2.9%
	Medical & Healthcare	1	2.9%
	Others	18	52.9%
	Total	N: 34	
AML/CFT Accreditation	CAMCO	5	14.7%
	ACAMS	2	5.9%
	AICB	7	20.6%
	None	20	58.8%
	Total	N: 34	
Work Experience	Below 1 year	1	2.9%
	1 to 2 years	4	11.8%
	3 to 5 years	9	26.5%
	6 to 10 years	17	50.0%
	Above 11 years	3	8.8%
	Total	N: 34	
Position	Senior Management	2	5.9%
	Middle Management	7	20.6%
	Senior Executive	14	41.2%
	Executive	10	29.4%
	Non-Executive	1	2.9%
	Total	N: 34	
N population			

The same Table 1 shows AML/CFT Accreditation. Most compliance officers, 20 out of 34 (58.8%) in the sample size, have yet to complete any accreditations. 2 respondents (5.9%) have ACAMS, and 7 have AICB accreditation. Meanwhile, 5 respondents have CAMCO accreditations (14.7%).

For the demographic profile of working experience, 17 respondents (50%) have at least 6 to 10 years of working experience. 9 respondents (26.5%) have at least 3 to 5 years of working experience. 3 respondents (8.8%) have more than 11 years of working experience, while 1 respondent who participated in this research has below than 1 year of working experience.

Lastly, the final demographic profile covers for working positions of the bank's compliance officers. In contrast, the highest frequency is 14 counts (41.2%) of respondents being as senior executives, 10 counts (29.4%) of respondents are employed as executives, 7 respondents (20.6%) are involved in Middle Management and 2 (5.9%) are engaged in Senior

Management. There is also 1 respondent (2.9%) who holds the work position of a non-executive banking compliance officer in the 34-sample size.

Table 2. Descriptive Statistics for Competency Level

	N	Min	Max	M	SD
1. Identifying and verifying the identity of customers	34	1.00	5.00	4.5294	.82518
2. Monitoring customer transactions	34	1.00	5.00	4.6176	.85333
3. Considering suspicious transactions	34	1.00	5.00	4.6176	.81704
4. Preparing and submitting reports	34	1.00	5.00	4.5000	.86164
5. Risk-based approach during investigation	34	1.00	5.00	4.6176	.77907
6. Able to identify and mitigate risk	34	1.00	5.00	4.5588	.78591
7. Able to troubleshoot issues (case complexity, system issues, etc)	34	1.00	5.00	4.2059	.97792
8. Escalating AML/CFT cases to higher level	34	1.00	5.00	4.5588	.85957
9. Reviewing AML/CFT report	34	1.00	5.00	4.2941	.90552
10. Performing Quality Assurance on AML/CFT report	34	1.00	5.00	4.2647	.86371
11. Providing AML/CFT staff training and coaching	34	1.00	5.00	4.0882	1.21525
12. Participate in AML/CFT projects	34	2.00	5.00	4.1176	.91336
13. Setting up and maintaining AML/CFT reporting unit	34	1.00	5.00	3.8235	1.21781
14. Setting up and updating AML/CFT system	34	1.00	5.00	3.6765	1.27257
15. Setting up and updating policies and procedures	34	1.00	5.00	3.8235	1.26660
16. Setting up recommendation on work improvement	34	1.00	5.00	4.1765	1.05803

N population, M mean, SD standard deviation

The descriptive statistics for Table 2 shows for Competency Level as one of the independent variables. Question number 2 (monitoring customer transactions), 3 (considering suspicious transactions), and 5 (risk-based approach during investigation) have the highest similar mean value of 4.6176. The result implies that most banking compliance officers in the sample size of 34 agreed with the statements as these would be their main competency in conducting AML/CFT Risk Judgment, whereas they will also need to monitor their customer's transactions and consider whether the transactions are suspicious. The compliance officers must conduct a risk-based approach during an investigation suitable to the risk appetite when encountered. The second highest questions are number 6 (able to identify and mitigate risk) and 8 (escalating AML/CFT cases to a higher level), have a mean value of 4.5588. Being the second highest questions, the result indicates that the compliance officers can identify and can mitigate risks that present accordingly. At the same time, their job requires them to escalate AML/CFT cases to a higher level. This question suggests the risk their banks face, in which further action could be taken on a higher level, such as filing a STR. These questions were considered mandatory and indicated a requirement of competency for the compliance officers to justify the risk and decide the course of action for it as to whether to mitigate or to escalate it.

The lowest mean with a value of 3.6765 would be question number 14 (setting up and updating AML/CFT system), which indicates that the bank's compliance officers may have less competency in this question. This could be that the competency for this question would be related to the Information Technology supervisory role, which required the expertise of a data engineer, whereas not all compliance officers would have them. As the responses were more than '3', which means 'Neutral', they almost agreed on having the right knowledge about setting up and updating the AML/CFT system. The second lowest means with a value of 3.8235 would be question number 13 (setting up and maintaining AML/CFT reporting unit) and 15 (setting up and updating policies and procedures). The results suggest that both questions were related to managerial roles in which, based on the demographic profiles for work positions (middle and senior management), only a few of the banking compliance officers in

the sample size of 34 may have these competencies resulting slightly in agreeing more than '3' from 'Neutral'.

Table 3. Descriptive Statistics for Awareness Level

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
1. I am aware the definition of AML/CFT	34	2.00	5.00	4.7059	.62906
2. I am aware of AML/CFT typologies	34	2.00	5.00	4.5882	.65679
3. I am aware of AML/CFT trends	34	3.00	5.00	4.5882	.55692
4. I am aware of AML/CFT regulations (Internal & External)	34	2.00	5.00	4.4118	.82085
5. I am aware of meaningful, shared purpose and clearly understand my roles	34	2.00	5.00	4.5882	.70141
6. I am aware and know how to communicates effectively among the team and other business units	34	2.00	5.00	4.4706	.78760
7. I am aware and able to address issues between myself and team without involving the team leader	34	1.00	5.00	4.2647	.96323
8. I am aware and manages confidential and nonconfidential information appropriately	34	1.00	5.00	4.5588	.85957
9. I am aware of my working flexibility so that I can adapt to any changing needs	34	1.00	5.00	4.5294	.82518
10. I am aware my AML/CFT team has established trusting and supportive relationships with other business units	34	1.00	5.00	4.4412	.82356
11. The increase in AML/CFT complexity requirements resulted in myself being aware of multiple skills which can be applied to reviewing work. (i.e. analysis skill)	34	1.00	5.00	4.5588	.82356
12. AML/CFT training and quality assurance programs are regularly conducted to provide awareness of knowledge and skills to myself	34	1.00	5.00	4.5294	.86112
13. Training or participating any AML/CFT activities (seminars/webinars/etc) can expand my knowledge, skills, and professional competencies	34	1.00	5.00	4.4706	.82518
14. I am aware I need to understand the overall regulatory requirements, AML/CFT program and activities which allow myself to successfully perform an effective AML/CFT investigation.	34	2.00	5.00	4.5588	.66017

N Population, M mean, SD standard deviation

The descriptive statistics for Table 3 show another independent variable: the Awareness Level. The highest mean value for this independent variable would be question number 1 (I am aware of the definition of AML/CFT), with a score of 4.7059. This indicates that working as bank's compliance officers is one of the main areas of expertise in AML/CFT, the respondents most likely were aware of the definition of AML/CFT as this awareness would be the most required and mandatory knowledge for them to perform in their expertise. Hence, the selection was almost close to strongly agreeing with the question. The minimum value is '2', in which a respondent disagreed with knowing the definition of anti-money laundering and counter-terrorism financing, while the maximum value is '5', indicating strongly agree.

Secondly, the second highest question in the independent variable of Awareness Level with a mean value of 4.5882 would be item number 2 (I am aware of AML/CFT typologies), 3 (I am aware of AML/CFT trends) and 5 (I am aware of meaningful, shared purpose, and clearly understand my roles). The results strongly imply the correlation between the items that bank's compliance officers need at least to be knowledgeable in AML/CFT typologies and trends and include an understanding of their duties and functions so that they may perform an effective AML/CFT Risk Judgment. As such, resulting almost too strongly agree with their awareness level.

The lowest mean value for this independent variable would be question number 7 (I am aware and able to address issues between myself and the team without involving the team leader), with a score of 4.2647, to which the result implies at least an agreement of the statement. However, as this question resulted in being the lowest, it could also indicate that the bank's compliance officers may need help to rectify issues among their team without involving the intervention of their leader. The second lowest mean value in Awareness Level would be instrument number 4 (I am aware of AML/CFT regulations (Internal & External)) with a score of 4.4118. As a result, it is the second lowest agreement of the statement, it could indicate that the understanding of AML/CFT regulations for both internal & external could be challenging.

Table 4. KMO, Bartlett's, Reliability & Normality Test

	KMO Test	Bartlett's Test	Cronbach Alpha	Normality Test		N of Items
				Kolmogorov-Smirnov	Shapiro Wilk	
Competency Level	.741	<.001	.935	.045	<.001	16
Awareness Level	.871	<.001	.980	<.001	<.001	14

Table 4 presented the KMO, Bartlett's, Reliability & Normality Test. The KMO Test for Competency and Awareness Level have result scores of .741 and .871 which are above > 0.5 as the rule of thumb for suitability of Factor Analysis. Bartlett's Test of Sphericity supports this with the significant result of <.001, further indicating a correlation matrix between the set of items that can be grouped independently. The Cronbach Alpha for Competency and Awareness Levels have scores of .935 and .980, respectively, to which all instruments were successfully constructed under a single concept in each variable.

Lastly, the tests of Normality conducted revealed a significant value of .045 for competency and <.001 for awareness level under the Kolmogorov-Smirnov normality test. Both Shapiro-Wilk tests revealed <.001 significant level. Based on a standard significant value of .05, the results of these Normality tests indicate the assumption for Parametric studies was not met. Hence non-parametric studies would be useful for this condition. As a result, the research will proceed with non-parametric testing for statistical and inferential analyses.

Table 5. Rotated Factor Matrix for Competency Level

	Factor		
	1	2	3
	Process	Supervisory	Training
1. Identifying and verifying the identity of customers	.719		
2. Monitoring customer transactions	.880		
3. Considering suspicious transactions	.915		
4. Preparing and submitting reports	.836		
5. Risk-based approach during investigation	.908		
6. Able to identify and mitigate risk	.916		
7. Able to troubleshoot issues (case complexity, system issues, etc)	.724		
8. Escalating AML/CFT cases to higher level	.875		
9. Reviewing AML/CFT report	.726		
10. Performing Quality Assurance on AML/CFT report	.761		
11. Providing AML/CFT staff training and coaching			.861
12. Participate in AML/CFT projects		.623	
13. Setting up and maintaining AML/CFT reporting unit		.902	
14. Setting up and updating AML/CFT system		.835	
15. Setting up and updating policies and procedures		.836	
16. Setting up recommendation on work improvement		.710	
Extraction Method: Principal Axis Factoring.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

Table 5 shows the Rotated Factor Matrix for Competency Level. A suppression of 0.5 was made to make the factors more distinguishable, and hence, three factors were formed and grouped as noted, which comprise process-based, supervisory, and training-based competencies. Based on the factors, process-based competencies mean the general routines of AML/CFT investigation for all bank's compliance officers to perform in their duties, while supervisory-based competencies focus on the managerial level to handle a reporting unit, internal regulations, projects, and work improvement to streamline better the AML/CFT processes and workflows in an organisation. Lastly, it is also required to have training-based competency, so the bank's compliance officers can conduct training for their peers or juniors accordingly. The factors generated from the instruments were above satisfactory, having higher values correlated with each other. Thus, the research concludes that Competency Level in this study was divided into the above respective factors.

Table 6. Rotated Factor Matrix for Awareness Level

	Factor	
	1	2
	Requirement of AML/CFT Tasks	Requirement of AML/CFT Knowledge
1. I am aware the definition of AML/CFT	.745	-.564
2. I am aware of AML/CFT typologies	-.536	.795
3. I am aware of AML/CFT trends		.920
4. I am aware of AML/CFT regulations (Internal & External)	.580	-.553
5. I am aware of meaningful, shared purpose and clearly understand my roles	.769	
6. I am aware and know how to communicates effectively among the team and other business units	.743	-.517
7. I am aware and able to address issues between myself and team without involving the team leader	.721	
8. I am aware and manages confidential and nonconfidential information appropriately	.861	
9. I am aware of my working flexibility so that I can adapt to any changing needs	.873	
10. I am aware my AML/CFT team has established trusting and supportive relationships with other business units	.786	
11. The increase in AML/CFT complexity requirements resulted in myself being aware of multiple skills which can be applied to reviewing work. (i.e., analysis skill)	.870	
12. AML/CFT training and quality assurance programs are regularly conducted to provide awareness of knowledge and skills to myself	.843	
13. Training or participating any AML/CFT activities (seminars/webinars/etc) can expand my knowledge, skills, and professional competencies	.711	
14. I am aware I need to understand the overall regulatory requirements, AML/CFT program and activities which allow myself to successfully perform an effective AML/CFT investigation.	.748	-.535
Extraction Method: Principal Axis Factoring.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

Table 6 shows the Rotated Factor Matrix for Awareness Level. A similar suppression of 0.5 was made, and factor loadings were fixed to two factors to make the factors more distinguishable and hence, two factors were formed and grouped as presented in the above table. The factors for Awareness Level comprise of 'Requirement of AML/CFT Tasks and Knowledge', respectively. Based on these factors, awareness in AML/CFT tasks are required for bank's compliance officers to understand their roles and to know how to address issues while improving their work investigation. The requirement for AML/CFT knowledge indicates

a required knowledge for the bank's compliance officers to perform well and assist in their duties. For example, by understanding AML/CFT typologies and trends, the bank's compliance officer may be able to identify better suspicious transactions or unusual activities for a particular pattern or scenario during their work investigation. The factors generated from the instruments were above satisfactory, having higher values correlated with each other. Thus, the research concludes that Awareness Level in this study was divided into the above 2 respective factors.

Table 12. Correlations Analysis

		Competency Level	Awareness Level
Kendall's Tau_B	Competency Level	1	.541**
	Awareness Level	.541**	1
	N	34	34
Spearman's Rho	Competency Level	1	.680**
	Awareness Level		<.001
	N	34	34

** . Correlation is significant at the 0.01 level (2-tailed).

Table 12 shows the Correlation Analysis of this research. A Correlation Analysis is a method to establish a linear relationship between two continuous variables and can measure the strength and direction of linear relationship whereas the lower the value, the negative direction or relationship for the variables can be and vice versa.

The dependent variable AML/CFT risk judgment is not measured as it may reflect the competency and awareness level results. For both competency and awareness levels, Kendall's Tau and Spearman's Rho were deployed as non-parametric alternatives to analyse the correlation between the variables and had impressive outcomes. For Kendall's Tau result, the correlation between competency and awareness level is significant, with a p-value of <.001. The correlation coefficient is .541 (two-tailed), which indicates a strong correlation amongst the two variables. Hence, there is a significant relationship between competency and awareness level based on Kendall's Tau correlation analysis.

The finding is consistent with Spearman's Rho correlation analysis, which reveals a similar significant p-value of <.001 with a slightly higher correlation coefficient of .680 (two-tailed) compared to Kendall's Tau's. As such, there is a significant relationship between competency and awareness level based on Spearman's Rho correlation analysis. In summary, both correlation analyses were positively correlated in between both variables.

This highlights that in conjunction with competency level and awareness, both are strongly correlated and relevant to conduct an effective AML/CFT Risk Judgment amongst the compliance officers. Based on the rule of thumb of $> + 0.9$ or $< - 0.9$, both correlation scores are not higher than $0.9 > 1$ which may not indicate a collinearity between the two variables.

Table 13. Non-Parametric Tests

Demographic Profiles	Statistical Method	Asymp. Sig. (2-tailed)	
		Competency Level	Awareness Level
Gender	Mann-Whitney U Test	.557	.698
Age	Kruskal Wallis Test	.806	.121
Highest Qualification	Kruskal Wallis Test	.442	.216
Educational Background	Kruskal Wallis Test	.244	.460
AML/CFT Accreditation	Kruskal Wallis Test	.921	.993
Work Experience	Kruskal Wallis Test	.844	.103
Position	Kruskal Wallis Test	.871	.042

Table 13 shows non-parametric tests used in this research for the demographic profiles, which served as the controlled variable in this study. Based on the results, Gender has a significant value of .557 and .698 for competency and awareness levels. As a result, there is no difference in Gender for both competency and awareness levels. The result implies that both genders can perform AML/CFT risk judgment without differences. Age has a significant value of .806 and .121 for competency and awareness levels. The result indicates no difference found in both variables for Age among the bank's compliance officers. This could highlight that age does not matter in competency and awareness for AML/CFT risk judgment outcome. The highest Qualification has the significant value of .442 and .216 for competency and awareness level. The same result implies having the highest qualifications for competency and awareness is the same as producing AML/CFT risk judgment outcomes. Meanwhile, Educational Background has a significant value of .244 and .460, which, based on this result, implies no difference in competency and awareness level in AML/CFT risk judgment outcome. AML/CFT Accreditation has a significant value of .921 and .993. The result implies there are no differences in having AML/CFT Accreditation to produce AML/CFT risk judgment outcomes amongst the banking compliance officers.

For Work Experience, the significant value for competency level is .844 while the awareness level is .103. Both do not have differences in competency and awareness level to reflect in AML/CFT risk judgment outcome. Lastly, for Position, the significant value for competency level is .871 and .042 for awareness level, respectively. The result indicates no difference in competency level in bank compliance officers' positions, as most have the competencies to perform AML/CFT risk judgment outcomes. However, the result for awareness level is significant based on a confidence interval of 95%, which highlights a difference in awareness level of work position to reflect an outcome in AML/CFT risk judgment. For further understanding, the research has conducted an additional analysis for Pairwise Comparisons of Position in appendices section. It shows bank's compliance officers ranging from a non-executive towards a senior management may differ in their competency and awareness level, including the job position of an executive towards a senior executive position and a job position of an executive position towards a senior management position.

4.1 Hypotheses Result

Table 14 shows the Friedman Test on Ranks for both Competency and Awareness levels. Friedman Test was deployed to confirm the hypotheses' results to ascertain whether the hypotheses are accepted. It tests on multiple paired samples of repeated measures, factors, or conditions. In regard to this study, each of the demographic profiles of the bank's compliance officers will be ranked and treated as different factors or conditions to assess for any differences in competency and awareness level, which are the independent variables in this study. The demographic profiles can also be justified as multiple paired samples of conditions toward the independent variables.

Table 14. Friedman Test Ranks and Statistics

	<i>M Rank</i>		
	Competency Level	Awareness Level	
Gender	6.25	6.56	
Age	2.00	2.00	
Highest Qualification	2.21	2.21	
Educational Background	3.56	3.54	
AML/CFT Accreditation	5.87	5.87	
Work Experience	6.34	6.25	
Position	5.37	5.15	
	4.41	4.43	
	Chi-square	df	Asymp. Sig.
Competency Level	129.904	7	<.001
Awareness Level	133.588	7	<.001

M mean

The same Table 14 also shows the Friedman Test result for both independent variables, the competency and awareness level. It has 7 degrees of freedom with chi-square value of 129.904 for competency level and 133.588 for awareness level. Based on a sample size of 34, both p-value are <.001. As such, based on the findings of the Friedman Test, the hypotheses for both competency and awareness level are supported as there is a difference found between them that originated from various demographic profiles, which may reflect in their AML/CFT risk judgment outcome. The Friedman test also indicated that banking compliance officers in this study were rated differently for their competency and awareness level.

Table 15. Hypotheses Table

Supported H₁:	Supported H₂:
<i>There is a difference in competency level amongst banking compliance officers in Malaysia that may significantly reflect their AML/CFT risk judgment outcome.</i>	<i>There is a difference in awareness level amongst banking compliance officers in Malaysia that may significantly reflect their AML/CFT risk judgment outcome.</i>

5.0 CONCLUSION

The research has revealed impressive outcomes that focused statistically amongst the Malaysian banking compliance officers for their competency and awareness levels that may significantly reflect AML/CFT risk judgment outcome. Based on the results, both hypotheses are supported as the study found significant differences in competency and awareness levels amongst each of the Malaysian banking compliance officers. Furthermore, competency and awareness levels were factored based on factor analysis results. It shows competency skills derived from process-based competencies, supervisory and training. At the same time, awareness is developed from the knowledge and tasks in AML/CFT. Based on the research objectives, the study examined and answered the Malaysian banking compliance officers' competency and awareness level in their AML/CFT risk judgment. Currently, the competency and awareness levels of the Malaysian banking compliance officers are at satisfactory rate to which they are able to perform proper AML/CFT risk judgment outcome and make the right decision in identifying suspicious activities. This is consistent in view of competency and awareness level reported in NRA 2020 that AML/CFT control measures in banking institutions are at acceptable rate.

However, a problem was found as they are originated from various backgrounds and demographic profiles, which may need to be revised in the requirement of the compliance sector for AML/CFT expertise. The research revealed that banking compliance officers in Malaysia came from various backgrounds and demographic profiles. This may imply that the requirement for compliance expertise in Malaysia's AML/CFT field is wider than just relevant educational background, such as accounting. The research found that demographic factors play an important role in competency and awareness levels that it may reflect the outcome of AML/CFT risk judgment. As such, this might impact anti-money laundering reporting to which the research would like to answer part of the reason low STR quality submitted to the Central Bank of Malaysia. Thus, it may provide an impact to the Malaysian financial stability due to suggested incompetencies hired in the bank's institutions for AML/CFT investigations.

Our research is also consistent with the findings from Jamil et al. (2024), who focused on the analysis of suspicious transaction reporting decisions for Malaysian money service businesses. It revealed that both training and knowledge are required for suspicious transaction reporting decisions. This may mean compliance officers would require both training and knowledge which would be part of competency and awareness to submit an effective STR decisions.

However, for the result of our findings, the research recommends a proper requirement for AML/CFT duties consistent with international standards. All AML/CFT staff may need to undergo a prerequisite condition as an appropriate qualification before serving their duties. We found various educational backgrounds, with most of the bank's compliance officers having nil AML/CFT accreditation. This could also indicate an issue within the human resources department, as no specific regulation was provided in the hiring sector. In conjunction to our findings, a stricter requirement may be required to hire the right talent to match the need in the compliance sector, specifically in the anti-money laundering field. In addition, the research also found multiple demographic profiles such as gender, age, highest qualification, educational background, AML/CFT accreditation and work experience have no significant differences in competency and awareness level among the compliance officers, as most could perform their duties perfectly.

However, there is a significant difference found in awareness level of the work position of the compliance officers. The finding suggests that the compliance officers in higher job positions would have better awareness levels in AML/CFT risk judgment than those in lower job positions. This may be due to the higher level of job position, the more responsibility required by the compliance officers in maintaining good oversight of an organization's AML/CFT governance and controls. Thus, having a very good awareness level to protect their banks or financial institutions and conduct good decision-making in filing STR. Therefore, the finding is consistent with Tarmizi et al. (2022) and Simwayi and Guohua (2011) that a significant gap exists between senior management's attitude and the juniors concerning anti-money laundering activities. This could be because the compliance officers in senior management roles would have more exposure than their juniors. This also indicates that the juniors would require more training and disclosure from their seniors to effectively produce a proper AML/CFT risk judgment outcome, including having a good knowledge of AML/CFT governance and controls.

As a result of this research, compliance officers in the Malaysian banking sector may reflect a good AML/CFT risk judgment outcome consistent with the behavioural decision theory mentioned in this research. Behavioural decision theory is important as it tells how the compliance officers assess a proper risk judgment in their decision-making of AML/CFT measures. It consists of how the compliance officers gather, utilize, and process the information to make the right AML/CFT risk judgment decisions.

6.0 SUGGESTION FOR FUTURE RESEARCH & LIMITATIONS

This research conducted a comparative research where future research may work in a more robust and holistic approach, including having causal analysis and qualitative approach to explore more of the AML/CFT risk judgment issues. More factors may be used in future research that include the mediation and moderation variables which may be utilised to study further of AML/CFT risk judgment outcome. Future research may consider including the human resources in this sector, internal and external regulations, compliance programs and training methods to understand more in the conduct of better AML/CFT risk judgment decision-making and outcome. The limitation of this research is that it only covers compliance officers in the banking sector of Malaysia. The sample size in this study was 34 under non-parametric testing, and a more extensive sampling and population might contribute to new empirical evidence. Other limitations may include our variables which are the competency and awareness level, the measurement, whereas certain perspectives, such as corporate governance, may be considered to answer the issues found in this study.

ACKNOWLEDGEMENT

The authors would like to express gratitude to Universiti Teknologi Mara (UiTM) and Faculty of Accountancy Research Ethics Committee for their support in this research.

REFERENCES

- Abdul Rani, M. I., Syed Mustapha Nazri, S. N. F., & Zolkafil, S. (2022). The money mule red flags in anti-money laundering transaction monitoring investigation. *International Journal of Business and Economy* 4(1), 150-163.
- ACAMS. (n.d.). Anti-money laundering awareness training. ACAMS.<https://www.acams.org/en/aml-general-awareness>.
- Acharya, A. (2009). Targeting terrorist financing: International cooperation and new regimes. *Targeting Terrorist Financing: International Cooperation and New Regimes*, 1–241. <https://doi.org/10.4324/9780203873717/targeting-terrorist-financing-arabinda-acharya>
- Ahmad Tarmizi, M., Ibrahim, M., Omar, N., & Hasnan, S. (2022). Competency of professional Accountant in Malaysia as attributes towards compliance of AMLA 2001. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 12(1), 78–87. <https://doi.org/10.6007/ijarafms/v12-i1/11180>.
- Ahmad Tarmizi, M, Zolkafil, S., Omar, N., Alam, S., Hasnan, M. S., Nazatul, S., Syed, F., & Nazri, M. (2023). Compliance determinants of anti-money laundering regime among professional accountants in Malaysia. *Journal of Money Laundering Control*, 26(2), 361–387. <https://doi.org/10.1108/JMLC-01-2022-0003>.
- Anti-Money Laundering and Anti-Terrorism (Financing Act 2001). https://www.moha.gov.my/images/maklumat_perkhidmatan/membanteras_pembiayaan_keganasan/AMLATFA.pdf.
- Central Bank of Malaysia (n.d.). *Appointing a Compliance Officer - Anti Money Laundering / countering financing of terrorism (AML/CFT)*. <https://amlcft.bnm.gov.my/appointing-a-compliance-officer>.
- Central Bank of Malaysia. (n.d.). *Publications - Anti Money Laundering / Countering Financing of Terrorism (AML/CFT)*. <https://amlcft.bnm.gov.my/publications>.
- Central Bank of Ireland. (2021). *Central Bank of Ireland issues revised AML and CFT guidelines: Key changes*. <https://maples.com/en/knowledge-centre/2021/7/central-bank-of-ireland-issues-aml-guidelines>.
- Deloitte. (2022). *Global fines for AML/CFT related issues increase in 2022*. <https://www2.deloitte.com/ro/en/pages/risk/articles/global-fines-amlcft-related-issues-increase-2022.html>,
- Dickson, D. R., & Nusair, K. (2010). An HR perspective: The global hunt for talent in the digital age. *Worldwide Hospitality and Tourism Themes*, 2(1), 86–93. <https://doi.org/10.1108/17554211011012612>.
- Dutra Sallaberry, J., Dal, L., Venturini, B., Martínez-Conesa, I., & Flach, L. (n.d.). *Personal responsibility and knowledge about money laundering: A study with Brazilian accountants*. <https://doi.org/10.1108/JFC-03-2023-0068>.
- FATF (2013). *National money laundering and terrorist financing risk assessment*. <https://www.fatfgafi.org/en/publications/Methodsandtrends/Nationalmoneylaunderingan dterroristfinancingriskassessment.html>.
- Forman, Marcy. (2006). Combating terrorist financing and other financial crimes through private sector partnerships. *Journal of Money Laundering Contro*, 9, 112-118. 10.1108/13685200610645265.
- Gafoor, Kunnathodi. (2012). *Considerations in measurement of awareness*. 10.13140/2.1.2109.2643.
- Hossain, M.B. (2023).Acquiring an awareness of the latest regulatory developments concerning digital assets and anti-money laundering.*Journal of Money Laundering Control*.<https://doi.org/10.1108/JMLC-10-2022-0147>.
- Isa, Y. M., Sanusi, Z. M., Haniff, M. N., & Barnes, P. A. (2015). Money laundering risk: From the Bankers' and Regulators perspectives. *Procedia Economics and Finance*, 28, 7–13. [https://doi.org/10.1016/s2212-5671\(15\)01075-8](https://doi.org/10.1016/s2212-5671(15)01075-8).
- Jamil, A. H., Mohd-Sanusi, Z., Mat-Isa, Y., & Yaacob, N. M. (2022). Money laundering risk judgement by compliance officers at financial institutions in Malaysia: The effects of

- customer risk determinants and regulatory enforcement. *Journal of Money Laundering Control*. <https://doi.org/10.1108/JMLC-01-2022-0004>.
- Jamil, A. bin, Johari, R. J., Zarefar, A., & Yudi, M. M. (2024). An analysis of suspicious transaction reporting decisions in Malaysia's money services business. *Edelweiss Applied Science and Technology*, 8(1), 24–32. <https://doi.org/10.55214/25768484.v8i1.413>.
- Khan, N. I., Abdul Jani, M. A., & Zulkifli, A. A. (2021). The effectiveness of anti-money laundering / counter financing of terrorism requirements in fund management companies. *International Journal of Service Management and Sustainability*, 6(2), 53. <https://doi.org/10.24191/ijsms.v6i2.15572>.
- KPMG MALTA. (2023). The Dynamics of the MLRO's Role. *KPMG Malta*. <https://kpmg.com/mt/en/home/insights/2023/01/the-dynamics-of-the-mlro-role.html>
- McDowell, J., & Novis, G. (2001). The Consequences of Money Laundering. *Economic Focus*, 6(2), 6–8.
- Mohamad Abdul Latif, A., & Abdul-Rahman, A. (2018). Combating Money Laundering in Malaysia: Current Practice, Challenges and Suggestions. *Asian Journal of Accounting and Governance*, 10, 123–134. <https://doi.org/10.17576/ajag-2018-10-11>.
- Money laundering: The Importance of international countermeasures--address by Michel Camdessus.. <https://www.imf.org/en/News/Articles/2015/09/28/04/53/sp021098>.
- National Institutes of Health. (n.d.). What are competencies?. *Office of Human Resources*. <https://hr.nih.gov/about/faq/working-nih/competencies/what-are-competencies>.
- Nigam, R. M., Srivastava, S., & Banwet, D. K. (2018). Behavioral mediators of financial decision making – a state-of-art literature review. *Review of Behavioral Finance*, 10(1), 2–41. <https://doi.org/10.1108/RBF-07-2016-0047>.
- Omar, N., Mohd-Sanusi, Z., & Prabowo, H. (2015). Awareness, perceived impact and views of Malaysian Accountants on the AML/CFT Requirements. *Journal of Economics, Business and Management*, 3(2), 226–232. <https://doi.org/10.7763/joebm.2015.v3.185>.
- Presutti, A. H. (1995). Anchor and adjustment heuristic effect on audit judgment. *Managerial Auditing Journal*, 10(9), 13–21. <https://doi.org/10.1108/02686909510100850/FULL/XML>
- Rahman, A. A. (2013). The impact of reporting suspicious transactions regime on banks: Malaysian experience. *Journal of Money Laundering Control*, 16(2), 159–170. <https://doi.org/10.1108/13685201311318502>.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd Edition). Holt Rinehart & Winston.
- Novita Setyawati, Dewisriwoelandari Giningroem, and H. Rohaeni. (2023). *discipline, motivation, and ob satisfaction on employee performance at pt xx*. <https://myjms.mohe.gov.my/index.php/insightjournal/article/view/22325/12176>.
- Shanmugam, B., & Thanasegaran, H. (2008). Combating money laundering in Malaysia. *Journal of Money Laundering Control*, 11(4), 331–344. <https://doi.org/10.1108/13685200810910402>.
- Simwayi, M., & Guohua, W. (2011). The role of commercial banks in combating money laundering. *Journal of Money Laundering Control*, 14(4), 324–333. <https://doi.org/10.1108/13685201111173802>.
- Siddiqui, Ali, Qureshi, Sheheryar, Fahad & Muhammad. (2016). *Building on technical competencies*.
- The Star. (2023). BNM receives 250,000 suspicious transaction reports in 2022 . *The Star*. <https://www.thestar.com.my/business/business-news/2023/07/25/bnm-receives-250000-suspicious-transaction-reports-in-2022----deputy-governor>.
- The U.S. Security Commision and Exchange. (2022). European banks pay for anti-money laundering failures. <https://www.sec.gov/news/press-release/2022-85>.
- Tofangsaz, Hamed. (2012). A new approach to the criminalization of terrorist financing and its compatibility with Sharia law. *Journal of Money Laundering Control*, 15. <https://doi.org/10.1108/13685201211265980>.

- Vathanophas, Vichita. (2006). Competency requirements for effective job performance in Thai public sector. *Contemporary Management Research*. 3(45).10.7903/cmr.49.
- Yunos, R. M., Hashim, F., Ahmad, S. A., Nabihah, F., & Taha, M. (2023). Assessing the perceived skills of tertiary accounting students by employers. *INSIGHT Journal*, 10(2), 140–148. <https://doi.org/10.24191/IJ.V0I0.23107>.

APPENDICES

Table I. Pairwise Comparisons for Position

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
Non-Executive-Executive	10.000	10.199	.981	.327	1.000
Non-Executive-Middle Management	11.786	10.396	1.134	.257	1.000
Non-Executive-Senior Executive	18.536	10.066	1.842	.066	.655
Non-Executive-Senior Management	25.500	11.910	2.141	.032	.323
Executive-Middle Management	1.786	4.792	.373	.709	1.000
Executive-Senior Executive	8.536	4.026	2.120	.034	.340
Executive-Senior Management	15.500	7.532	2.058	.040	.396
Middle Management-Senior Executive	-6.750	4.501	-1.500	.134	1.000
Middle Management-Senior Management	13.714	7.797	1.759	.079	.786
Senior Executive-Senior Management	6.964	7.351	.947	.343	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Note: For the Boxplot figures below, the Y-axis represent the scale of competency and awareness level which '1' indicates as unacceptable, '2' indicates as weak, '3' as neutral, '4' as satisfactory and '5' indicates as excellent.

Fig I. Boxplot for Gender

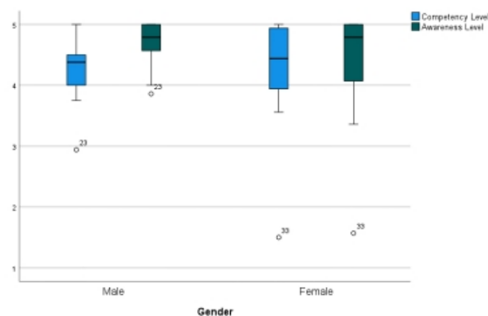


Fig III. Boxplot for Highest Qualification

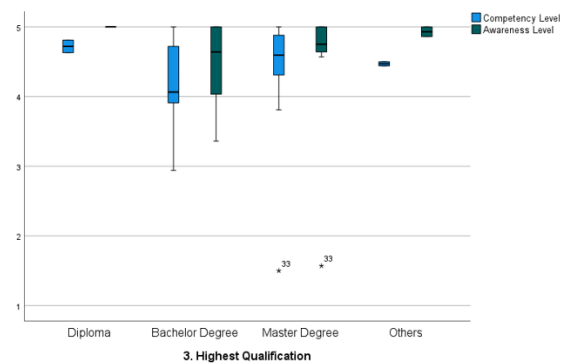


Fig II. Boxplot for Age

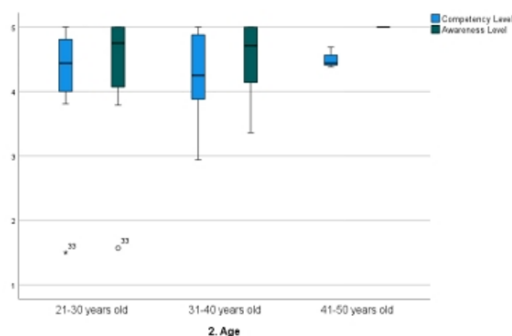


Fig IV. Boxplot for Educational Background (Competency Level)

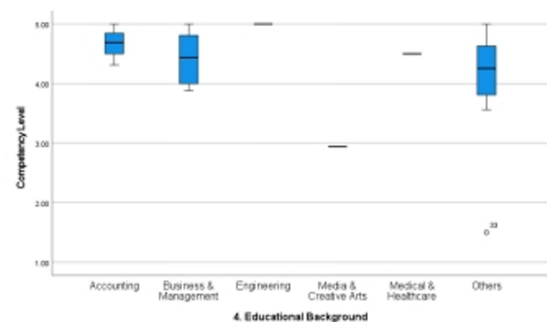


Fig V. Boxplot for Educational Background (Awareness Level)

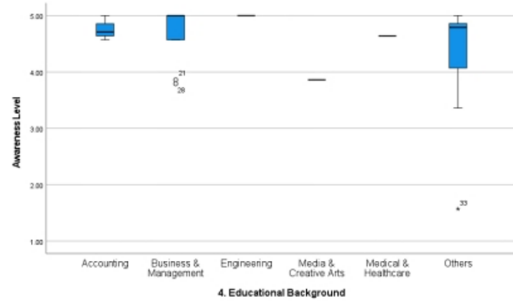


Fig VII. Boxplot for Work Experience

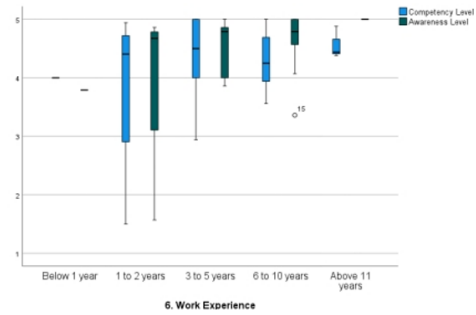


Fig VI. Boxplot for AML/CFT Accreditation

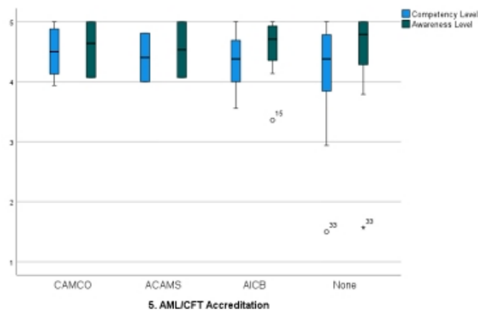
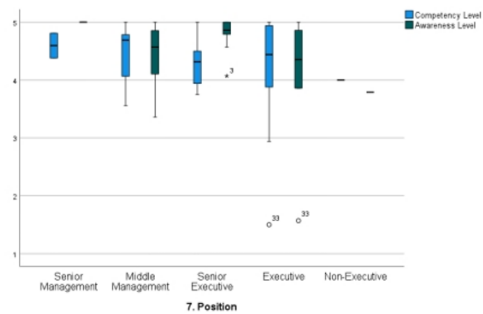


Fig VIII. Boxplot for Position



CONCEPTUALISING OF MUSLIMS' IN USING AR-RAHNU SERVICES OFFERED BY MALAYSIAN ISLAMIC BANKS

Muhammad Haris Naquiuddin Muda^{1*}, Ainol Mardhiyah Rahmat², Nur Rifhan A. Rahim³, Siti Noorhaslina Abd Halim⁴, Nur Hanisah Mohamad Razali⁵, Hafizuddin Md Dali⁶

^{1,2,3,4}Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Segamat Campus, 85000, Segamat, Johor Malaysia

*Corresponding Author

Email: ¹ harisnaquiuddin@uitm.edu.my, ² dhiyarahmat@uitm.edu.my, ³ rifhan@uitm.edu.my,
⁴ hanisahmr@uitm.edu.my, ⁵ hafizuddindali@uitm.edu.my

Received: 10th November 2023

Accepted: 14th March 2024

ABSTRACT

This paper aims to recognize and discuss the factors influencing the intention of Muslims to participate in Ar-Rahnu offered by Islamic banks. Despite conventional pawnshops offering a higher margin to the value of collateral higher asset values in loans compared to Ar-Rahnu, there has been a noticeable increase in the demand for Ar-Rahnu over the years. The discussions attempt to create a discourse around the factors that influence the intention of Muslims to participate in Ar-Rahnu by using the Theory of Planned Behaviour plus religiosity. The findings propose conceptual frameworks that consist of components such as attitudes, subjective norms, perceived behavioral control, and religiosity as factors influencing the intention of Muslims to participate in Ar-Rahnu. However, these frameworks remain conceptual and await validation through empirical testing by future researchers. The findings of this study will provide valuable insights for Malaysian Islamic banks to enhance their Ar-Rahnu services. By aligning their offerings with Muslims' preferences and needs, Islamic banks can foster stronger relationships with their customer base and potentially attract new clientele. This review is hoped to be valuable to the present and future Ar-Rahnu scholars interested in the evolution of literature and identifying opportunities for future research. Ultimately, this paper addresses the crucial question of the factors influencing Muslims' intention to participate in Ar-Rahnu services in Islamic banks, thus contributing to the advancement of knowledge in this field.

Keywords: Ar-Rahnu, Islamic Pawn Broking, Shariah, Micro Financing Tool

1.0 INTRODUCTION

Ar-Rahnu is a term derived from an Arabic word. Ar-Rahnu derived from the word '*rahana*' which means mortgaging. This word means mortgage (Naim, 2004). Practitioners, academicians, and other stakeholders have accepted Ar-Rahnu or Islamic pawn broking as one of the Muslims' micro-financing instruments (Ali et al., 2017).

The offer of the Ar-Rahnu scheme in banking institutions is based on the goal of providing an alternative financial service for the Muslim community that applies to the concept of Shariah (Rahman et al., 2019). Like any other business, banking institutions are concerned with a stable and profitable economy that can produce sufficient financial resources for long-term growth to attract investments (Shafai et al., 2023). Ar-Rahnu is one of the sources. Ar-Rahnu can help people who need immediate money by avoiding paying any interest to conventional pawning shops. During a downturn economy, Ar-Rahnu can be a preferred

option for individuals and micro-entrepreneurs for several reasons. The main point is Ar-Rahnu provides an immediate source of cash (Hussin et al., 2022). The individuals and micro-entrepreneurs may face financial difficulties and may require immediate cash to meet their financial obligations or keep their businesses afloat (Kassa, 2021). Ar-Rahnu offers instant cash, which can provide immediate relief and help individuals and micro-entrepreneurs navigate through the challenges of a downturn economy (Azman et al., 2020).

After three decades of implementation, comprehensive studies revealed a remarkable surge in the proliferation of Islamic pawnshops compared to conventional pawnshop institutions in Malaysia (Saiman & Zainuddin, 2022). Azila (2011) found that the amount of loans obtained from the conventional pawnshop can reach up to 85% to 90% of the asset value. Contrary to the Ar-Rahnu scheme that offers only 65% to 80% of the asset value which is a lower margin of financing compared to conventional pawnshops (Muhamad et al., 2019). Therefore, the conventional pawnshop has an advantage in terms of loan providing which is 90% compared to Islamic pawnshops that attracted the customers to pledge their assets there. However, despite these disadvantages, it is found that there are increasing demand for Ar-Rahnu financing offered by Ar-Rahnu pawnshops in Islamic banks in Malaysia. The statement aforementioned inspires this study to explore factors influencing Muslims in using Ar-Rahnu services offered by Malaysian Islamic banks.

As previously stated, there is a lack of extensive literature on this specific type of financing. In Malaysia and other Southeast Asian countries, the focus has been on conventional financing products like personal financing, credit cards, short-term loans, and others. Comparatively, Ar-Rahnu financing has received less attention. This study aims to fill this gap by providing a concise discussion supported by existing literature on Ar-Rahnu financing. Previous studies highlighted on the factors that influence the customers' perception focusing on demographic factors status, gender, age, marital status, religion, education levels, employment background, and income level of pawnshop (Muhamad et al., 2019). Another study from Hassanudin et al. (2020) extended the study and found Affect (AFF), Social factors (SF), Facilitating conditions (FC), Perceived financial benefits (PFB), Perceived risk (PR), and Acceptance (ACC). This study focuses on organisation management compared to customers' experiences.

However, when compared to previous studies conducted, most of the research focusing on the Malaysian context for Ar-Rahnu has been found to have limited and less comprehensive variables. As a result, there is a need for further research and improvement in this area. Due to these identified limitations, this current study aims to examine the factors that influence the intention of Muslims to participate in Ar-Rahnu scheme.

1.1 Ar-Rahnu Financing in Islamic Banks

There are only three Islamic banks that provide Ar-Rahnu financing. Table 1 shows the trend of the amount of Ar-Rahnu financing in Islamic Banks. The total amount of Ar-Rahnu financing provided by Bank Rakyat, Bank Muamalat and Bank Islam shows that it was increasing consistently from 2018 to 2021 as shown in figure 1.

Table 1. Amount of Ar-Rahnu Financing in Islamic Banks

Year	Bank Rakyat (RM,000)	Bank Muamalat (RM,000)	Bank Islam (RM,000)	Total (RM,000)
2018	1,728,090	109,245	73,110	1,910,445
2019	1,728,090	126,747	71,107	1,925,944
2020	2,015,803	304,536	5,481	2,325,820

2021	2,194,779	272,570	95,124	2,562,473
2022	2,336,283	303,100	150,135	2,789,518

(Source: Annual Report Bank Rakyat, Bank Muamalat and Bank Islam in the year 2018, 2019, 2020, 2021 and 2022)

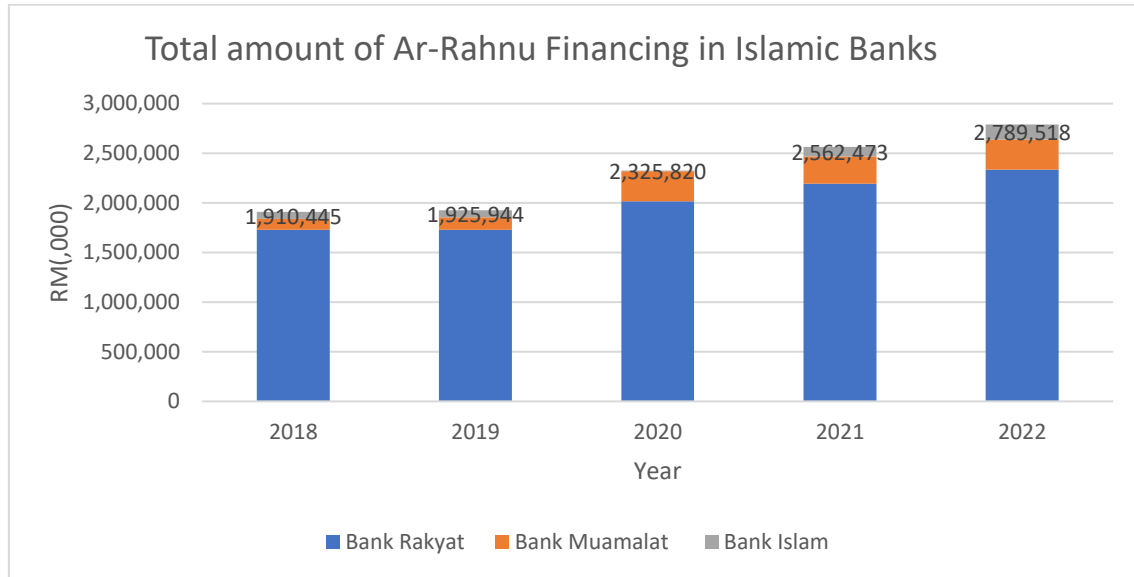


Figure 1 Total Amount of Ar-Rahnu Financing in Islamic Bank (Source: Annual Report Bank Rakyat, Bank Muamalat and Bank Islam in year 2018, 2019, 2020, 2021 and 2022)

2.0 LITERATURE REVIEW

2.1 Ar-Rahnu

The term Ar-Rahnu, in its most literal sense, means an object that needs to be pledged or a loan guarantee. Under the Ar-Rahnu concept, the borrower (Ar-Rahin) is obliged to pledge or produce redeemable collateral or Ar-Rahnu in the form of gold or silver as a guarantee that the financing will be repaid (collateral redeemed) at the maturity of the agreement. When the borrowed amount is not repaid at maturity, the lender (Al-Murtahin) has the right to sell the collateral to recover the financing. Collateral is an important tool for financing protection by offering a guarantee to the financial institution because it decreases the risk to lenders and raises the default cost to borrowers (Cheong & Sinnakkannu, 2012). In financial terms, Rahnu refers to an object that has been paid as collateral to ensure that the debt is repaid by the debtor. The pledged contract is written to provide that security by binding the collateral to the creditor in the situation that the debtor fails to repay the loan (Muhamad et al., 2019).

There is a limited amount of literature accessible on Islamic pawns in Malaysia. However, several basic studies have been undertaken on the establishment, development, and operating structure of the Ar-Rahnu scheme. Previous studies have researched the effectiveness and acceptance of the pawn brokering mechanism in our country (Muhamad et al., 2019; Anuar, Fadilah, Shahdila and Nurul, 2019; Kambara, 2017; Abdul Rahman & Kassim, 2017; Baharum et al., 2015; Azman et al., 2015; Hamid et al., 2015; Ahmad et al., 2012; Cheong & Sinnakkannu, 2012; Sanusi & Johari, 2006; Mohammed et al., 2005). Many factors affect the choice of Ar-Rahnu by the customer, such as Shariah's view, pricing structure, and consumer service offered by the Ar-Rahnu provider. According to a study by Abdul Rahman and Kassim (2017), Muhamad et al. (2019), and Baharum et al. (2015), the acceptance of Islamic pawn brokering is strongly linked to the identification of Shariah view,

the pledged assets, and the performance of customer service. Hence, referring to the previous studies, the researchers decided to include the factors of religiosity and attitude as factors influencing the intention of the customers to participate in Ar-Rahnu services in Islamic banks.

The researchers of these studies concentrate on the issues of Shariah perspective in terms of the pricing system, the assets pledged, the customer service, and the location of Islamic pawn brokering activities. Sanusi and Ismail (2005) studied the importance of Shariah rules in the Islamic pawning services (Ar-Rahnu). They argued that Islamic principles such as Al-Wadiah, Al-Qard Al-Hasan and Al-Ujrah must be carefully considered when forming an Islamic pawn. Similarly, Mohammed *et al.* (2005) argued that Al-Wadiah, Al-Qard Al-Hasan and Al-Ujrah make Ar-Rahnu clearly different from the conventional pawnshop. The elements of *gharar* and *riba* were eliminated in Ar-Rahnu.

There are also studies on Islamic pawn broking system that have researched on the types of items accepted as a pledge (Abdul Rahman and Kassim, 2017; Sanusi and Johari, 2006; Mohammed *et al.*, 2005). Sanusi and Johari (2006) stated that the Islamic pawn broking system only accepts gold and jewellery made of gold. Comparatively, the conventional pawn broking system accepts an item beyond the gold jewellery which includes Rolex watches, diamonds, and other valuable electronic items. Meanwhile, in Islamic banking institutions, customers can only use gold as collateral under the Ar-Rahnu schemes. This is because gold has the most consistent value as compared to other items.

In addition, it is proven in Al-Quran and As-Sunnah about the evidence for the legality of pawn-broking activity. As mentioned by Allah in the Al-Quran as follows: *"If you are on a journey and cannot find a scribe, a pledge with possession (may serve the purpose). And if one of you deposits a thing on trust with another, let the trustee (faithfully) discharge his trust and let him fear his lord."* (Quran, 2:283)

Besides, in *Sunnah* that is a secondary source of Islam, it is allowed to practise knowledge-based pawn broking activity. It is supported by the Hadith narrated by Al-Bukhari that "the Prophet (SAW) bought some food from the Jew, and with him he pawned his iron shield." It is also mentioned in the Hadith narrated by Abu Hurayrah that the Prophet (pbuh) also said that *"pawned horse-riding animals may be mounted in exchange for their expenses, and that the milk of pawned dairy animals in exchange for their expenses, and the person who rides or drinks is, therefore, liable for the costs of the animal"* (Al-Zuhayli, 2003). Based on the textual provisions of the Al-Quran and Sunnah, it can be concluded that the Ar-Rahnu scheme (collateral) in the pawning transaction is intended to ensure the repayment of the debt. The purpose of Ar-Rahnu is therefore to give the lender the right to sell the collateral in the case of default payments (Muhamad *et al.*, 2019).

The Islamic pawnshop (Ar-Rahnu scheme) may be used when the person is having a shortage of money. The most effective approach is that it offers a financial product for the lower-income community and small businesses that typically have limited resources (Anuar *et al.*, 2019). At the same time, the Ar-Rahnu scheme has become a short-term consumer loan option and a microfinance channel for small and medium enterprises (SMEs) (Kambara, 2017).

The establishment of Ar-Rahnu scheme in Malaysia is purposefully established to provide an alternative to the Muslim community, to those in need, by offering them a financing or loan option with collateral (Norudin *et al.*, 2012). It is also developed to introduce short-term financing collateral that offers interest-free financing to make Islamic finance more equitable and fairer, especially to low-and medium-income groups. (Azmi *et al.*, 2015). At the same time, the Ar-Rahnu scheme is a short-term consumer lending platform and a microfinance platform for small and medium-sized enterprises (Azila, 2011). In Malaysia, several Islamic banks have proposed Ar-Rahnu schemes, such as Bank Rakyat, Bank Muamalat Malaysia Berhad

(BMMB) and Bank Islam Malaysia Berhad (BIMB). These banks and financial institutions provide the Ar-Rahnu scheme for the same reason, which is to provide fast cash by financing.

2.2 Perspective Theory of Planned Behavior (TPB)

The theoretical model used in this research is based on the Theory of Planned Behavior (TPB) (Ajzen, 1991). TPB Ajzen, (1991) is an extension of the Reasoned Action Theory (TRA) and has been added to complete the TRA (Fishbein and Ajzen, 1975).

TPB deals with behavior where individuals have faced a situation in which they have incomplete control of their behavior (Ajzen, 1991). The extension of TRA, TPB, consists of three indicators, namely: behavioral attitude, a social factor called a subjective norm, and an added variable, the degree of perceived behavioral control (PBC) (Ajzen, 1991). According to Ajzen (1991), PBC is the additional component that has been added to solve the TRA limitations. Fishbein and Ajzen, (1975) introduced TPB by adding a third component that is perceived behavioral control (PBC). Although behavioral performance is closely linked to an individual's motivation to act, there are non-motivational factors that may discourage anyone from behaving in a certain way.

Both theoretically, TRA and TPB concentrate on the individual's behavioral purpose to perform a particular action. However, TPB focuses more on the problem that is not covered by the TRA and TPB introduces a third aspect that is perceived behavioral control to cover the problem that is not covered by the TRA. TPB focuses on behavioral intent and has been widely used by researchers in many fields to study behavioral intention (Ajzen, 2011; Metawie and Mostafa, 2015; Sondari, Rufaidah and Djatnika, 2015).

According to Metawie and Mostafa (2015), currently, many previous studies are built on TPB. Metawie and Mostafa (2015) further stated that studies based on TPB are concerned with the prediction of human actions from which the TPB list usually includes elements such as attitudes, subjective norms, and perceived behavioral controls. Simply, this theory explains that every human behavior represents the intention of an individual. Thus, the theory established its theory of planned behavior model, consisting of Attitude, Subjective Norm, and Perceived Behavioral Control.

Whereas this study focuses on the purposes of the Ar-Rahnu scheme, TBP is still relevant as a conceptual framework. Figure 2 below shows the model of the theory of planned behavior.

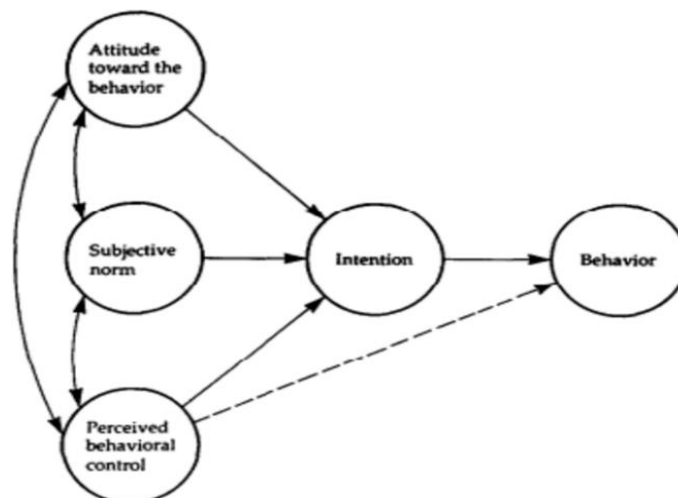


Figure 2 Theory of Planned Behavior (TPB)

Source: Ajzen (1991) *The Theory of Planned Behavior: Organizational Behavior*

In this study, the researchers use the theory of planned behavior as a theory to investigate the intention of the use of the Ar-Rahnu scheme. The theory is chosen because it can link a specific action to people's intention to assess the possibility of a behavioral intention.

3.0 CONCEPTUAL FRAMEWORK

Based on the previous studies, this study has constructed a conceptual framework related to factors that influence Muslims' intention to use Ar-Rahnu services offered by Islamic banks. This conceptual framework as shown in figure 3 consists of four components which are attitude, subjective norm, perceived behavioral control and religiosity which will be discussed in the next session.

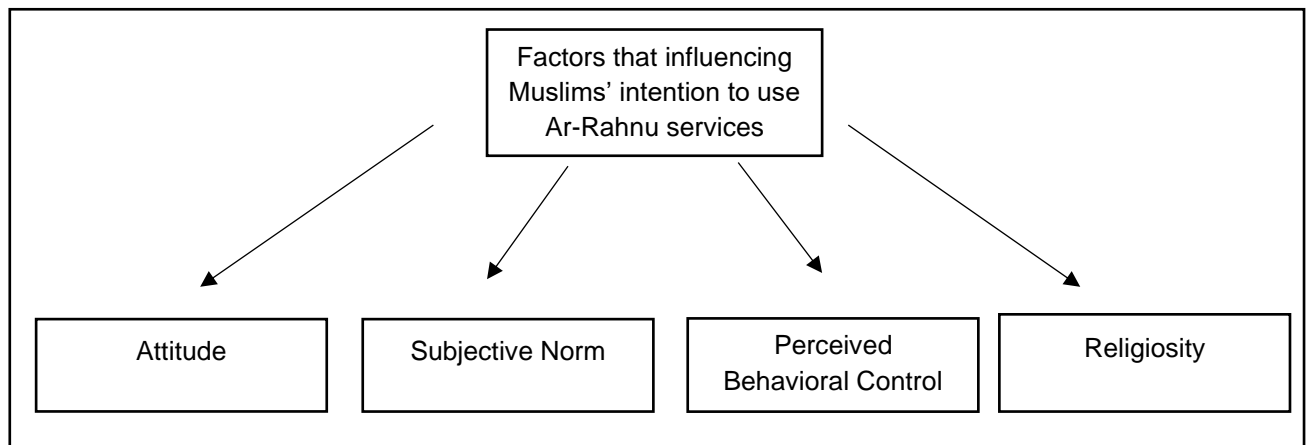


Figure 3 Conceptual Framework

3.1.1 Attitude

Attitude can be described as a set of values, resulting in a value being put on the outcome of the action (Ajzen, 1991). From the Islamic perspective, attitude requires active participation and engagement of its followers across all tiers, emphasizing tangible actions over mere verbal expressions to preserve their efficacy and avoid superficiality (Aprilia & Alvien, 2023). When the outcome or result of behavior is positive, useful, helpful, attractive, advantageous, or a good thing, then a person's attitude more favourable to a person that engages in the behavior. For this research, the researchers limit the scope of the study of consumer behavior prediction theories such as the Theory Reasoned Action in Fishbein and Ajzen (1975), and the Theory of Planned Behavior (Ajzen, 1991). Due to these two theories, attitude refers to the evaluative influence of individual positive or negative feelings in the conduct of a particular behavior (Ajzen, 1991; Fishbein and Ajzen, 1975).

Several studies showed attitude is a significant element towards the intention of people. According to the study conducted in the field of Takaful by Amin et al. (2011), the online trading method by Gopi and Ramayah (2007) and Baharum et al. (2015) in Islamic pawning, can be seen that attitude plays an important role in making decision.

Amin *et al.* (2011) had been researching 176 Islamic banking clients in Malaysia. Attitude, subjective standard, and amount of knowledge were subject to multiple regression analysis. The outcome indicates that the attitude is positive and has a significant relationship with the purpose of accepting Islamic insurance (Takaful). It was found that attitude has a significant relationship with intention to accept Islamic insurance (Takaful) with a p-value is .000 (1% significant level).

In addition, a study done by Gopi and Ramayah (2007) stated that the mindset had a strong positive effect on the intention to use the online trading method. Similarly, in this analysis, the decision to use the Islamic pawnshop is expected to be especially affected by one's attitude.

Furthermore, the results of the study examining the factors that affect the intention of the customer to use Ar-Rahnu at the Kedah Post Office by Baharum *et al.* (2015) have shown that the attitude of the customer is significant and has a positive impact on the use of Ar-Rahnu at a significant level of 0.01. Thus, it is expected from the results of the current study that the intention of Muslims to participate in Ar-Rahnu scheme has a significant impact on people's attitudes.

3.1.2 Subjective Norms

In addition to the attitude, intention is affected by the subjective norm. The perceived social pressure to participate or not participate in a certain activity is a subjective norm.

This is determined by moral belief. Some behaviours were perceived by important people towards other lives (Ajzen, 1991). The subjective norm is the social pressure to behave in a specific way, taking into consideration knowledge or understanding of the positive or negative effects resulting from individuals who may exercise their impact on someone's behavior, such as parents, partners, friends, religious groups, and organisations, which are the most frequent examples cited by researchers (Amin *et al.*, 2011).

As a study conducted by Kim and Chung (2011), an individual will be affected when he or she thinks that other people have a positive attitude towards a product, thereby increasing his or her intention to buy the product. It reflects a person's perceived social pressure to perform a certain behavior. Besides that, Sumaedi *et al.* (2015) claimed that a person may act if any significant referent that he or she believes that the person should engage in behavior even if the person does not have a positive attitude towards the behavior or its consequences, but because of the influences, the person may be strongly motivated to obey the referents.

Subjective norm was found to have a positive correlation with usage intention in research conducted by Gopi and Ramayah (2007). It is shown that the subjective norm was significant at 5% and the standardized (Beta) was 0.215.

Moreover, Amin and Chong (2011) found that the subjective norm was a positive sign of intention to use the Islamic pawnshop at a significant level of 0.05. The researchers also explained that friends, family members and teachers could be agents to influence the individual's reaction to the use of Islamic pawnshops.

In this research, the experience of others may influence an individual's acceptance and usage of the product and the positive relationship between the subjective norm and the intention to participate in the Ar-Rahnu scheme is expected to be significant.

3.1.3 Perceived Behavioral Control

Perceived behavioral control is affected by the availability of enough resources and willingness to overcome behavioral barriers. The further resources and obstacles individuals encounter, the greater their perceived behavioral influence and the better their desire to perform behaviors. It consists of two components control beliefs and self-efficacy (Al-Nahdi & Islam, 2011). A sense of belief in theory planned behavior is characterized by perceived behavioral control. Gopi and Ramayah (2007) suggest that there is a strong connection between perceived behavioral control and the intention to use it. The perceived behavioral

control design was applied to the model to address the limitations of the TRA (Fishbein & Ajzen, 1975).

According to Ajzen (1991), people assume that their behavior can influence action, and perceived behavioral control, along with behavioral intent, can directly predict behavioral achievement. In short, the individual intends to perform a certain behavior.

The significant effect of perceived behavioral control was also discussed in previous studies. Abdul Khalek et al. (2015) found that the desire to eat halal food among young consumers played an important role in perceived behavioral control. Similarly, the theory of planned behavior has shown that the individual's intention to pay zakah is influenced by perceived behavioral control (Huda et al., 2012). Interesting research by Hasbullah, Khairi, and Aziz (2015) showed that there is also a significant relationship between perceived behavioral control and intention to contribute to the waqf sector.

Thus, the more likely the performance of the behavior, in this case, is an increase in intention to use the Ar-Rahnu scheme. Researchers have shown that perceived behavior control accounted for considerable variance in intention and behavior and there is a positive relationship between PBC and intention (Al-Nahdi & Islam, 2011; Osman et al., 2014). In the study conducted by Osman et al. (2014), it was found that there is a positive significant relationship with intention. The p-value is .000 and the standardized (Beta) is 0.239.

Therefore, with the resources provided, the higher the trust in their ability, the more likely and more individuals to participate in the Ar-Rahnu scheme. In this research, the positive relationship between perceived behavioral control and the intention to participate in the Ar-Rahnu scheme is expected to be important.

3.1.4 Religiosity

Religiosity is a very crucial thing in human life. Religiosity is expressed in various areas of human life. Religious activity occurs not only when a person engages in ritual activity (worship), but also when he performs some other action that is guided by Allah. The level of religiosity is becoming a key determinant of Muslim consumer attitudes and behavior (Souiden and Rani, 2015).

"Allah has permitted trade and prohibited usury" (Quran, 2:275). All activities in Muslim life must follow the Islamic principle. As a Muslim, an individual must comply with any orders from Allah SWT, including to avoid participating in interest-based financing. The establishment of the Ar-Rahnu scheme is therefore intended to appeal to Muslims who wish to provide alternative pawn-broking services regulated by the Shariah principle which are free from *riba*, *gharar*, and other illegal elements forbidden in Islam (Ahmad et al., 2012).

As proposed in an empirical study by Amin and Chong (2011), religiosity serves as a moderator of attitudes and intentions within the theoretical framework proposed for the study on the effect of customers' intention to follow Islamic banking. They find that religion is the most important element that affects people's attitudes and behavior.

In addition, religious obedience is also the main factor that is often considered by Muslims to be the decision to participate in Ar-Rahnu. Religious and Shariah elements will remain the key focus of discussion for most scholars as the main concern is about the benefits that the lender earns from expanding the loan or Qardul Hassan (Anuar et al., 2019).

It is therefore vital to examine the religious impact of the degree of acceptance of Ar-Rahnu. Similarly, the choice of Ar-Rahnu is one of the religious obligations, because individuals can indirectly practise their religion to obtain non-interest-bearing financing per Islamic principles and laws and not conventional pawnshops.

In this regard, as a well-known Islamic state and a highly skilled entrepreneurship culture, Kelantan was described to be a study sample for the research to identify the factor of religion that plays a significant role in influencing the intention of small entrepreneurs in Kelantan (Yahaya & Bahari, 2018). Yahaya and Bahari (2018) have stated that a person who is knowledgeable in religious matters would prefer to use the Ar-Rahnu scheme in Kelantan. In addition, as a country with 95% of the Muslim community, this article intends to examine the extent of the factor of religious obedience that is believed to have influenced the acceptance of Ar-Rahnu in Shah Alam.

4.0 CONCLUSION

The Ar-Rahnu services provided by Malaysian Islamic banks have gained significant popularity among Muslims. This paper aims to explore and conceptualize the factors influencing Muslims' preferences for utilizing these services. By understanding these factors, Islamic banks can tailor their offerings to better meet the needs of their Muslim clientele. The researchers propose conceptual frameworks that consist of components such as attitudes, subjective norms, perceived behavioral control, and religiosity as factors influencing the intention of Muslims to participate in Ar-Rahnu offered by Islamic banks. These frameworks need to be tested by other researchers in the future.

Understanding the factors that influence Muslims' adoption of Ar-Rahnu services in the context of Malaysian Islamic banks is crucial for enhancing the relevance and effectiveness of these services. By employing a robust theoretical framework and conducting comprehensive research, this study aims to contribute significantly to the existing body of knowledge in Islamic finance and consumer behavior. This study also can help policymakers to construct comprehensive policies and banking institutions can improve products to meet customer needs according to their demands. Islamic banks can refine their policies and products to attract more customers and offer services that align with Shariah compliance. Additionally, customers can benefit from Shariah-compliant products and Islamic banks can generate more income. All the factors highlighted are consistent with the Theory of Planned Behavior plus religiosity.

5.0 SUGGESTION FOR FUTURE RESEARCH

This study calls for future researchers to conduct surveys using these factors for greater data collection. Besides, future researchers were recommended to use other variables such as service quality, confidence, and advertising effectiveness to be the factors that influence the intention towards Ar-Rahnu.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. Author 1 carried out the concept and study design and overlooked the article's write-up. Author 2 wrote and critically analysed the literature review. Author 3 carried out the theoretical aspects and construction of conceptual frameworks. Author 4 focused on the interpretation of previous findings. Author 5 analysed and concluded the findings of the research and Author 6 was responsible for the final checking.

ACKNOWLEDGEMENTS

This research is not funded by any grant or other resources available to the university or research institution.

REFERENCES

- Abdul Khalek, A., Syed Ismail, S. H., & Mohamed Ibrahim, H. (2015). A study on the factors influencing young Muslims' behavioural intention in consuming halal food in Malaysia. *Shariah Journal*, 23(1), 79-102.
- Abdul Rahman, N. N., & Kassim, S. H. (2017). Factors influencing acceptance of Ar-Rahnu: comparison between private and state Ar-Rahnu providers in Terengganu. *Middle East J. of Management*, 4(1), 39. <https://doi.org/10.1504/mejm.2017.10004506>.
- Ahmad, S. A. B., Mansor, N., & A. Nadiyah, A. N. (2012). Customer acceptance on Islamic pawn broking: A Malaysian case. *Interdisciplinary Journal of Contemporary Research in Business*, 3(10), 748-763. <https://ijcrb.webs.com>.
- Ajzen, I. (1991). The theory of planned behavior. *Handbook of Theories of Social Psychology*, 1(211), 438-459. <https://doi.org/10.4135/9781446249215.n22>.
- Ali, M. N. A., Johari, Y. C., & Fatah, A. M. M. (2017). Ar-Rahnu: A review of literature and future research. *SHS Web of Conferences*, 36(4), 33. <https://doi.org/10.1051/shsconf/20173600033>.
- Al-Nahdi, M.T.S. & Islam, A. (2011). Factors influencing Malaysian Muslims to patronage halal restaurants-ambience as a mediator. *Business Review*, 6(2), 121- 133.
- Al-Zuhayli, W. (2003). Islamic Jurisprudence and Its Proof. *Financial Transaction in Islamic Jurisprudence* (Vol. 2). Dar Al-Fikr, Damascus.
- Amin, H., Abdul Rahman, A. R., Sondoh, S. L., Jr., & Ang, M. C. H. (2011). Determinants of customers' intention to use Islamic personal financing: The case of Malaysian Islamic banks. *Journal of Islamic Accounting and Business Research*, 2(1), 22-42.
- Amin, H., & Chong, R. (2011). Is the theory of reasoned action valid for Ar-Rahnu? An Empirical investigation. *Australian Journal of Basic and Applied Sciences*, 5(10), 716-726. <https://doi.org/10.5897/AJBM11.423>.
- Anuar, K.A., Fadilah, B.K., Shahdila, W.S.S., & Nurul, W. A. (2019). An Overview of the shariah issues of Rahn-based financing in Malaysia tinjauan isu-isu syariah dalam pembiayaan berasaskan al-Rahn di Malaysia. *Faculty of Syariah and Law*, 2(1), 15-29. <http://journal.kuis.edu.my/muwafaqat>
- Apriliana R., & Alvien N.A. (2023). The Effects of Islamic Marketing Mix on Millennial Generation's Intentions in Using Islamic Financial Technology. *Insight Journal*, 10(1).
- Azila, A.R. (2011). *Economic and religious significance of the islamic and conventional pawnbroking in Malaysia: Behavioural and perception analysis*. [Durham E Theses]. Durham University.
- Azman, N. N. H, Kassim, S. & Masron, T. A. (2015). Key factor influencing women Micro-Entrepreneurs to Use Ar-Rahnu: Evidence from Siti Khadijah's Market, Kelantan. *Australian Journal of Basic and Applied Sciences*, 9(28), 105-110.
- Azman, N. H. N., Zabri, M. Z. M., Masron, T. A., & Malim, N. A. K. (2020). *The Adoption of Ar-Rahnu and Financial Wellbeing of Micro-entrepreneurs in Malaysia*. <https://scite.ai/reports/10.6007/ijarbss/v10-i6/7259>.
- Azmi, S.N.S, Hussin, N., & Basiruddin, R. (2015). Examining the differences between Ar Rahnu and conventional pawn broking in compatibility towards Maqasid Shariah. *Islamic Heritage*, 455.
- Baharum, N.N., Maamor, S., & Othman, A. 2015. Examining the factors that influence customer' s intention to Use Ar-Rahnu at post office: A case study in Kedah. *Journal of Islamic Economics, Banking and Finance*, 11(4), 86-99.
- Bank Islam. (2019). *2018 Annual Report of Bank Islam*. <https://www.insage.com.my/Upload/Docs/BANKISLAM/BankIslamAR2018a.pdf#view=Full&pagemode=bookmarks>.
- Bank Islam. (2020). *2019 Annual Report of Bank Islam*. <https://www.insage.com.my/Upload/Docs/BANKISLAM/BankIslam-AR2019a.pdf#view=Full&pagemode=bookmarks>.

- Bank Islam. (2021). 2020 Annual Report of Bank Islam. <https://www.insage.com.my/Upload/Docs/BANKISLAM/Bank%20Islam%20Integraed%20Annual%20Report%202020.pdf#view=Full&pagemode=bookmarks>.
- Bank Islam. (2022). 2021 Annual Report of Bank Islam. <https://www.insage.com.my/Upload/Docs/BANKISLAM/Bank%20Islam%20Integrated%20Annual%20Report%202021.pdf#view=Full&pagemode=bookmarks>
- Bank Islam. (2023). 2022 Annual Report of Bank Islam. <https://www.insage.com.my/IR/interactiveAR/BIMB/interactiveAR2022/>.
- Bank Muamalat. (2018). 2017 Annual Report of Bank Muamalat. <https://www.muamalat.com.my/downloads/corporate-overview/annual/2017.pdf>
- Bank. (2019). 2018 Annual Report of Bank Muamalat. Muamalat <https://www.muamalat.com.my/downloads/corporate-overview/annual/2018.pdf>.
- Bank Muamalat. (2020). 2019 Annual Report of Bank Muamalat. <https://www.muamalat.com.my/downloads/corporate-overview/audited/Audited-Report-31st-Dec2019.pdf>.
- Bank Rakyat. (2019). 2018 Annual Report of Bank Rakyat. https://www.bankrakyat.com.my/d/about/financial_info/69/attach/Annual%20Report%202018%20ENG.pdf.
- Bank Rakyat. (2020). 2019 Annual Report of Bank Rakyat. https://www.bankrakyat.com.my/d/about/financial_info/82/attach/Annual%20Report%202019.pdf.
- Bank Rakyat. (2021). 2020 Annual Report of Bank Rakyat. https://www.bankrakyat.com.my/d/about/financial_info/97/attach/BKRM_AR_2020_ENG.pdf
- Bank Rakyat. (2022). 2021 Annual Report of Bank Rakyat. https://www.bankrakyat.com.my/d/about/financial_info/109/attach/AR%202021%20%20Full%201g%20FINAL.pdf.
- Bank Rakyat. (2023). 2022 Annual Report of Bank Rakyat. [https://www.bankrakyat.com.my/d/about/financial_info/120/attach/AR%202022%20\(ENG\)%20FINAL_.pdf](https://www.bankrakyat.com.my/d/about/financial_info/120/attach/AR%202022%20(ENG)%20FINAL_.pdf)
- Cheong, C. W. H., & Sinnakkannu, J. (2012). Ar- Rahn: Opportunities and Challenges in Malaysia. *SSRN Electronic Journal* December, 1-11. <https://doi.org/10.2139/ssrn.2112809>.
- Fishbein, & Ajzen. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. *Contemporary Sociology*, 6(2), 244. <https://doi.org/10.2307/2065853>.
- Gopi, M. & Ramayah, T. (2007). Applicability of theory of planned behaviour in predicting intention to trade online: Some evidence from a developing country. *International Journal of Emerging Markets*, 2(4), 348-360.
- Hamid, M. A., Rahman, I. A., & Halim, A. N. A. (2015). Key factors influencing customers to use Ar-Rahn (Islamic Pawn Shop) in Malaysia: Evidence from Bank Rakyat. *International Journal of Interdisciplinary Research and Innovations*, 3(4), 73-80.
- Hasbullah, N.A., Khairi, K.F., & Aziz, M.R. (2016). Intention to contribute in Corporate Waqf: Applying the Theory of Planned Behaviour. *UMRAN - International Journal of Islamic and Civilizational Studies*, 3(1), 39-48. <https://doi.org/10.11113/umran2016.3n1.39>.
- Hassanudin, M. T. T., Khaliq, A., Mohd Thas Thaker, M. A., Allah Pitchay, A., & Sakaran, K. C. (2020). Drivers of Ar-Rahn (pawn) acceptance: Malaysian evidence. *Journal of Islamic Marketing*, 12(7), 1241-1259. <https://doi.org/10.1108/JIMA-08-2019-0161>.
- Huda, N., Rini, N., Mardoni, Y., & Putra, P. (2012). The Analysis of attitudes, subjective norms, and behavioral control on Muzakki's Intention to Pay Zakah. *International Journal of Business and Social Science*, 3(22), 271-279. https://ijbssnet.com/journals/Vol_3_No_22_Special_Issue_November_2012/24.Pdf.
- Hussin, M. H., Sulaiman, N. S. M., Razak, A. A., Muhammad, F., & Shaarani, A. Z. M. (2022). *Customers' Satisfaction Level of the Ar-Rahn YaPEIM Service Quality in the Muallim District, Perak*. <https://scite.ai/reports/10.6007/ijarbss/v12-i11/15355>.

- Kambara, K. (2017). Economics of Ar-Rahnu (Islamic Pawnbroking): Issues and Cases in Brunei Darussalam. *Jurnal Hadhari: An International Journal*, 12(2), 87-96. <https://ejournals.ukm.my/jhadhari>.
- Kassa, E. T.. (2021). *Socioeconomic determinants of micro and small enterprise growth in North Wollo and Waghimira Zone selected towns*. <https://scite.ai/reports/10.1186/s13731-021-00165-5>.
- Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40–47.
- Metawie, M., & Mostafa, R. H. A. (2015). Predictors of Egyptian university students' charitable intentions: Application of the Theory of Planned Behavior Business Administration Department Ain Shams University. *International Journal of Business and Social Science*, 6(8), 204–215.
- Mohammed, N., Daud, N. M. M., & Sanusi N. A. (2005). Analisis skim Ar-Rahnu: Satu kajian perbandingan dengan pajak gadai konvensional. *Prosiding Seminar Kewangan dan Ekonomi Islam: Pengukuhan dan Transformasi Ekonomi dan Kewangan Islam*, 29- 30 Ogos, Esset-Bangi, Selangor Darul Ehsan, Malaysia.
- Muhamad, H., San, O. T., Katan, M., & Ni, S. W. (2019). Factors that influence the customers' perception towards Ar -Rahnu (Islamic Pawn Broking Product) in Selangor, Malaysia. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(2), 126–137.
- Naim, M. A. (2004). Sistem gadaian Islam. *Islammiyyat*, 26(2), 39-57.
- Norudin, M., Bashir, A. S. A., & Nurul, N. A., (2012). Customers' acceptance on Islamic Pawnbroking: A Malaysian case. *Interdisciplinary Journal of Contemporary Research in Business*, 3(10), 748-763. <https://journal-archieives15.webs.com/748-763.pdf>.
- Osman, A. D., Jusoh, Amlus, & Khotob, N. (2014). Exploring the relationship between environmental knowledge and environmental attitude towards pro- environmental behaviour. *American-Eurasian Journal of Sustainable Agriculture*, 8(8), 1–4. www.aensiweb.com/aejsa.html.
- Rahman, A. I. H., Hashim, R., Othman, A. S., & Aziz, A. (2019). Factors Affecting the Acceptance of Ar-Rahnu (Islamic Pawnshop). *The Macrotheme Review*, 4(25), 15- 23.
- Saiman, M. Z., & Zainuddin, A. A. R. M. (2022). Al-Rahnu system as an alternative to conventional pawnbroking for Muslim community in Malaysia: An analysis study of legal framework and jurisdiction on the governance of al-Rahnu. *Journal of Contemporary Islamic Studies (JCIS)*, 8 (1), 1-11.
- Sanusi, N., & Ismail, A. (2005), A panel data analysis of the determinants of Malaysian Islamic bank returns: 1995-2004. *Paper in Islamic Economics and Finance*, 508.
- Shafai N.A, Ahmad Badri A.F, & Mohd Zulkifli S.A. (2023). *Determinants of Profitability: Evidence from Banking Sector in Malaysia*.
- Sondari, M. C., Rufaidah, P., & Djatnika, S. (2015). Using Theory of planned behavior in predicting entrepreneurial career intention. *International Academic Research Journal of Business and Technology*, 1(2), 137–141.
- Sumaedi, S., Bakti, I. G. M. Y., Rakhmawati, T., Astrini, N. J., Yarmen, M., & Widiyanti, T. (2015). Patient loyalty model: An extended theory of planned behavior perspective :A case study in Bogor, Indonesia. *Leadership in Health Services*, 28(3), 245-258.
- The Noble Qur'an. (n.d.). *Surah Al-Baqarah ayah 275*. <https://quran.com/2/275>.
- The Noble Qur'an. (n.d.). *Surah Al-Baqarah ayah 283*. <https://quran.com/2/283>.
- Yahaya, S., & Bahari, Z. (2018). Level of acceptance of Muslim Small-Scale Entrepreneurs in Kelantan towards Ar-Rahnu. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 836–854.

Student's Learning Readiness for Communication Arabic Subject in Higher Education System

Farhana Idris^{1*}, Siti Nurmaisarah Fkhururazi², Siti Fatimah Mohamad Radzi³, Munirah Azrae⁴

^{1,3,4}Academy of Language Studies, Universiti Teknologi MARA Cawangan Johor,
85000 Segamat, Johor, Malaysia

²Academy of Language Studies, Universiti Teknologi MARA Cawangan Johor,
81750 Masai, Johor, Malaysia

*Corresponding Author

Email: ¹farha420@uitm.edu.my, ²sitinurmaisarah@uitm.edu.my, ³sitifatimahradzi@uitm.edu.my,
⁴munir041@uitm.edu.my

Received: 15th November 2023

Accepted: 4th December 2023

ABSTRACT

Learning readiness is the prerequisite condition for the effective learning process among learners. Understanding the factors influencing students' readiness to learn a language is crucial for educators and institutions aiming to facilitate effective language acquisition. The interplay of interest, motivation, and prior knowledge significantly shapes the receptivity of learners to the language learning process. This study aims to assess student's learning readiness in in these key dimensions (interest, motivation, and prior knowledge) towards the specific context of Arabic Language for Communication at UiTM Cawangan Johor. By examining these factors, educators can gain valuable insights that inform tailored instructional strategies, ultimately enhancing the overall language learning experience for students. This study employs quantitative research whereby the data was collected from 116 part one students using an online questionnaire. The raw data was analyzed by using Statistical Packages for the Social Sciences (SPSS) in order to get the frequency, percentage mean and interpretation of the data. The positive results indicate that students are moderately prepared in terms of interest and motivation to learn the Arabic Communication subject. The result also shows that the students are ready in terms of Arabic language prior knowledge towards the learning. It is hoped that this research can be used as guidance for Arabic educators, especially the UiTM Arabic lecturers, to design the best and appropriate teaching approaches and methods, especially based on the students' existing knowledge, while seeking to optimize their teaching methodologies.

Keywords: Arabic learning, Interest, Motivation, Prior Knowledge

1.0 INTRODUCTION

The introduction of Arabic language in Malaya was intrinsically linked to the dissemination of Islam, as it functioned as a pivotal instrument for comprehending Islamic teachings. The 13th century witnessed the substantial impact of Islamic influence on the sustenance of Arabic language instruction and acquisition in Malaya. Consequently, the Islamic community in Malaya was compelled to engage in the study and mastery of this language. It is noteworthy that Arabic, despite its initial utilization primarily in trade (Samah, 2009), assumes an elevated status as it serves as the language of the Quran and Hadith, constituting the primary reference for Muslims (Abdin, 2019).

Language, as a dynamic entity, possesses the inherent capacity to evolve and transform over time (Al-Yasu'iy, 1986). In this context, the enduring presence of the Sanskrit language in Malaya gradually receded, yielding precedence to the preservation and pedagogy of the Arabic language (Hassan, 2002). The early 19th century heralded the advent of the 'pondok' system (Abu Bakar, 1984). This pedagogical paradigm proffered religious education grounded in religious texts authored by Islamic scholars, encompassing the obligatory inclusion of Arabic language instruction, including aspects of grammar and morphology. This traditional system endures, prominently represented in establishments such as Pondok Pasir Tumbuh and Pondok Tok Kenali. However, the Japanese occupation of Malaya in the mid-20th century precipitated transformative alterations within the realm of Arabic language education (Yusuf, 2000).

Abdin's research (2019) reveals that with the institutionalization of the educational system, state religious schools emerged to ensure the continuity of Arabic language education across all states. The Madrasah *Marta lil Ulum al Diniah*, situated in the regal precinct of Klang, Selangor, was the pioneer state religious institution. The period from 1946 to 1960 witnessed multifarious amendments to the methodologies employed in teaching Arabic in these schools. Initially, two distinct streams of state religious schools were instituted by the Selangor Islamic Religious Department (JAIS). The first stream employed Arabic texts and Arabic as the medium of instruction for religious subjects, while the second stream, referred to as the 'special class', employed Jawi script and Malay as the medium of instruction for religious subjects. As elucidated in the study conducted by Ariffin and Nordin (2022), the Integrated Early Curriculum (KBD) was accorded national recognition in 2012 and incrementally implemented from Form One to Form Five in State Religious Schools. KBD introduced religious subjects delivered through Arabic references and teaching materials.

Moreover, government-administered schools have incorporated Arabic language courses into their curricula. The establishment of Religious National Secondary Schools (SMKA) stemmed from the adaptation of the concept of state religious secondary schools, under the guidance of the late Tuan Haji Nik Mohammed Mohyideen bin Haji Wan Musa, Director of the Religious Affairs Division within the Ministry of Education. Initially comprising 11 schools, SMKA expanded to encompass 55 schools, with the overarching goal of fostering mainstream students' engagement with Arabic language learning. However, many students encountered impediments in pursuing their education at SMKA and thus opted for conventional daily schools. Consequently, the introduction of the Arabic Language Stream (KAA) was instituted as an initiative to cater to the proclivities of daily school students interested in Arabic language acquisition. The primary objective underlying the establishment of SMKA and KAA was to equitably facilitate mainstream students in advancing their Arabic language proficiency, particularly in the domains of Arabic language, Islamic studies, and allied fields.

The commendable endeavors of the Malaysian government in promoting and institutionalizing Arabic language instruction and acquisition merit due recognition. As

documented in the research by Muhammad (2013) and Abdin (2019), the former Malaysian Prime Minister, Tun Abdullah bin Ahmad Badawi, ardently aspired to impart Arabic language education across diverse age groups, culminating in the launch of a distinctive program characterized by four primary focal areas. This program, christened 'j-QAF', was meticulously designed for the lower educational tiers, commencing from primary school, and was systematically integrated into national schools under the auspices of central government oversight. The four salient focal points encompassed the teaching and exposure to Jawi script, the Quran, foundational Arabic language proficiency, and the fundamental tenets of Fardhu Ain (basic Islamic obligations). Significantly, these initiatives were consolidated within the ambit of the Education Development Master Plan (KPM 2006).

2.0 LITERATURE REVIEW

2.1 Arabic Language Teaching and Learning at Universiti Teknologi MARA (UiTM)

The Integrated Early Curriculum (KBD), anchored in the Arabic language, has emerged as a pivotal catalyst in enabling students to pursue higher education in the realms of religious studies and Arabic language (Ariffin & Nordin, 2022). Consequently, this has led to the expansion in the establishment and provision of Arabic language education at the university level, offering it as a primary, secondary, or tertiary language of instruction.

Abdin's research (2019) underscores the origins of Arabic language teaching and learning at the university level, with its inception dating back to 1949 when the University of Malaya (UM) was initially situated in Singapore. The impetus behind this development was significantly reinforced with the introduction of the New Economic Policy, as Malaysia set its sights on enhancing its skilled workforce. In a span of two years, three additional public universities were founded: Universiti Sains Malaysia (1969), Universiti Kebangsaan Malaysia (1970), and Universiti Putra Malaysia (1971). Arabic language education subsequently evolved within the purview of the faculties of education and foreign languages, becoming available as a core or elective course, often serving as the third language of instruction.

Sopian and Ahmad's investigation (2012) elucidates the substantial role played by Universiti Teknologi MARA (UiTM), the largest university in Malaysia, in advancing Arabic language education at the tertiary level. UiTM has not only incorporated Arabic language as a mandatory course, placing it on par with other foreign languages, but has also structured its intake according to academic levels. Degree-seeking students are provided the option to select Arabic language as their third language for a duration of three semesters. However, for diploma students at UiTM, Arabic language is offered as a third language in only two specific study fields: Business Diploma and Tourism Diploma.

On August 15, 2016, a significant milestone was reached with the formal introduction of the Professional Communication Arabic Language Bachelor's Degree Program at the Language Academy of UiTM Shah Alam, characterized by a three-year curriculum. This program underscores multifarious facets, including language proficiency, applied linguistics, professional communication, information technology, cultural studies, entrepreneurship, and management, all converging to provide a comprehensive and structured educational framework (Programme Information LG242).

2.2 Learning Readiness

Learning readiness refers to an individual's preparedness or capacity to acquire new knowledge, skills, or information effectively. It encompasses a range of psychological, cognitive, and emotional factors that can influence a person's ability to learn and adapt to new information or experiences. Factors that contribute to learning readiness can generally be categorized into internal and external factors.

Some of the internal factors are learner's motivation, prior knowledge, cognitive abilities, and emotional state. While the external factors are learning environment, social and cultural factors, and many more. It is important to recognize that these two factors are often interconnected. For example, a supportive external learning environment can positively influence a student's internal motivation to learn. Likewise, internal factors, like personal traits, can influence how an individual perceives and interacts with external factors.

Learning readiness can have a significant influence on a student's achievement since a student's readiness to learn sets the stage for effective learning experiences. According to Ciudad and Aliazas (2022), learning readiness can increase the educational achievement of students, and the efficiency and effectiveness of classroom teaching. The absence of student readiness in learning leads to decrease the educational achievement of the student. It also decreases the efficiency and effectiveness of classroom teaching and wastes huge government investment in school education (Dangol & Shrestha, 2019).

2.3 Interest

Interest refers to a person's curiosity, attraction, or fascination with a particular topic, subject, or activity. It is a psychological and emotional state that drives individuals to explore, learn, or engage with something that captures their attention and enthusiasm and then can significantly influence one's choices. Interest is a complex concept that can be influenced by both nature (inherent traits) and nurture (environmental factors).

Hidi and Renninger (2006) proposed a four-phase model of interest development, which provides insights into how individuals become interested in a particular topic or activity over time. These phases help explain the process of how initial encounters with a subject can lead to sustained and deep interest. The four phases are as follows:

1. Triggered situational interest (Triggering Phase): In this initial phase, individuals experience a "trigger" that sparks their interest. Triggers can be various stimuli, such as a book, a conversation, an event, or individual experiences. These triggers create curiosity and capture the individual's attention.
2. Maintained situational interest (Maintaining Phase): Once interest is triggered, it enters the maintaining phase, where individuals actively engage with the subject or activity. During this phase, individuals seek out more information, delve deeper into the topic, and may participate in related experiences.
3. Emerging, less developed individual interest (Developing Phase): In the developing phase, individuals start to form a deeper and more lasting interest. They make connections between the subject of interest and their existing knowledge, beliefs, and experiences. As their understanding and knowledge grow, so does their interest.
4. Well-developed individual interest (Consolidating Phase): The consolidating phase represents a more stable and enduring interest. Individuals in this phase have integrated the topic into their identity and life. They often pursue the subject as a long-term hobby, passion, or career. It becomes a part of who they are.

In summary, these phases help illustrate that interest is not a static or fixed trait but a dynamic process that evolves over time.

2.4 Motivation

Motivation is a broader construct than interest and is not specifically related to learning of particular disciplinary content. It is a psychological concept that drive and influence a person's behaviour, actions, and decisions. It plays a fundamental role in human life and is essential for achieving goals, making progress, and finding purpose. Understanding and managing motivation is critical for personal development, achieving professional success, and maintaining a healthy work-life balance. It is a complex and multifaceted aspect of human behaviour that can vary from one person to another.

Motivation can be understood in various ways and is influenced by a combination of intrinsic factors that arise from within an individual as well as extrinsic factors that come from external influences. Some of the factors are basic human needs and desires, personal goals, beliefs, and values as well as social and environmental influences.

In an educational activity, motivation has a significant role to direct students' behaviour. It becomes an integral part of students in their learning to achieve their goal (Hanafi et al., 2018). Geng et al. (2019) points out that motivation is an essential factor in class learning activities.

2.5 Prior Knowledge

Prior knowledge, often referred to as prior learning or prior experience, is a fundamental concept in the field of education. It refers to the knowledge, skills, and experiences that a learner has already possessed and accumulated before engaging in a new learning experience or educational activity. This prior knowledge can significantly influence how a person learns and comprehends new information, as well as their ability to make connections and transfer knowledge to new situations. In the context of education, some key points about prior knowledge are:

1. **Transfer of knowledge:** One of the goals of education is to enable learners to transfer knowledge and skills from one context to another. Prior knowledge plays a critical role in this transfer process. When students can relate the latest information to what they already know, they are more likely to apply their knowledge effectively in various situations.
2. **Influence on learning:** Prior knowledge can significantly influence a learner's ability to grasp new concepts. If a student has strong prior knowledge related to a particular topic, they may learn more quickly and comprehensively in that area. Conversely, if they lack relevant prior knowledge, it may hinder their understanding and progress.
3. **Assessment and differentiation:** When teachers are aware of students' prior knowledge, it can help them develop instructional approaches that maximize the child's learning experience. The learning process will be more efficient and effective (Drew, 2023).

3.0 RESEARCH QUESTIONS

This study attempts to answer the following research questions:

1. To what extent are students prepared to learn the Arabic language in terms of their interest?
2. To what extent are students prepared to learn the Arabic language in terms of their motivation?
3. To what extent are students prepared to learn the Arabic language based on their prior knowledge of Arabic?

4.0 RESEARCH METHODOLOGY

To collect data for this study, an online survey questionnaire was administered to 116 part 1 Diploma students enrolled in UiTM Cawangan Johor, specifically undertaking Arabic Language Level 1. Participants were selectively screened, with inclusion criteria requiring prior formal education in Arabic Language, at least up to the primary school level, ensuring their ability to contribute meaningful insights. The chosen students, possessing prior experiences in Arabic language education, were considered valuable informants for this study.

The research instrument employed in this study was a researcher-made questionnaire, encompassing statements that gauge learning readiness across three dimensions: interest (study willingness, maintaining a positive mindset, giving full attention, and openness to

acquiring new knowledge), motivation (motivation, enthusiasm, aspiration for outstanding performance, increased effort, and identification of weaknesses and work for improvement), and Arabic Language prior knowledge (knowledge of nouns, verbs, and particles, pronouns, understanding the verb conjugation, simple sentence construction, ability to create complete sentences, brief communication skills, and grammar mistake identification). Respondents used Likert-type scales to express their agreement with statements.

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) version 26 software, involving descriptive statistics such as frequency, percentage, mean, and standard deviation.

5.0 FINDINGS AND DISCUSSIONS

Table 1. Demographic Profile of Respondents

Demographic backgrounds	Variables	Number	%
Gender	Male	53	45.7
	Female	63	54.3
Learning period	11 years	48	41.4
	10 years	1	0.9
	9 years	23	19.8
	7 years	44	37.9
Achievement	Good	25	21.6
	Average	57	49
	Not good	34	29.4

After a thorough follow-up, 116 students completed the survey and were considered valid for analysis (see Table 1 for demographic details). The respondents consisted of 63 female students (54.3%) and 53 male students (45.7%). Regarding prior Arabic learning periods, 48 students (41.4%) reported having at least 11 years of experience, with one student (0.9%) having 10 years, 23 students (19.8%) having 9 years, and 44 students (37.9%) having 7 years. In terms of achievement in prior Arabic learning, the majority (n=57, 49%) rated their performance as average, 34 students (29.4%) rated it as below average, and the remaining students (n=25, 21.6%) considered their achievement to be good.

Table 2. The Result of Student's Interest

Indicators	Mean	SD	Interpretation
Study willingness	4.07	0.83	Moderately Ready
Maintaining positive mind set	4.06	0.81	Moderately Ready
Giving full attention	4.11	0.80	Moderately Ready
Openness to acquiring new knowledge	4.27	0.82	Very Much Ready
Overall	4.13	0.82	Moderately Ready

Legend: 4.21 – 5.00 - Very Much Ready; 3.41 – 4.20 -Moderately Ready; 2.61 – 3.40 –Ready; 1.81 – 2.60 -Slightly Ready; 1.00 – 1.80 -Not Ready.

Based on the data gathered as shown in Table 2, the perceived learning readiness as to interest of the respondents has an overall mean of 4.13 signifying that the learners are moderately ready in term of interest in Arabic learning. It was further revealed that the respondents assessed openness to acquire new knowledge tied with the highest mean of 4.27 interpreted as very much ready. This is an interesting finding because it implies that the respondents are very much ready to acquire new knowledge in the context of learning Arabic. This suggests a strong willingness to learn and explore various aspects of the language. The second highest mean for the student interest variable is the indicator of students giving full attention which is a mean of 4.11 interpreted as moderately ready. The number implies that the respondents are moderately ready to give their full attention to their Arabic learning. This indicates a commitment to the task at hand. However, the respondents assessed study

willingness with a mean of 4.07, interpreted as moderately ready. This suggests a positive attitude toward studying the language, though there might be room for even greater willingness. On the other hand, maintaining a positive mind set received the lowest mean of 4.06, interpreted as moderately ready indicating that students, on average, have a moderately positive mindset when it comes to learning Arabic.

The findings of this study on readiness to learn, based on students' interests, align with some results from previous studies in this area. In a study by Mohamad and Wan (2016) on a group of students at several public higher education institutions in Malaysia, it was found that most students have a high interest in Arabic, although the efforts and practices they show are not in line with the stated interest. Similarly, the study of Abdullah et al. (2015) found that most of their respondents (83.9%) who are a group of junior high school students at SMKA Naim Lil Banat, Kelantan, have a good interest in Arabic subjects. This shows that the Arabic learning experience that they went through has successfully formed an interest in Arabic subjects at an encouraging level.

Table 3. The Result of Student's Motivation

Indicators	Mean	SD	Interpretation
Motivated	4.00	0.79	Moderately Ready
Enthusiastic	4.02	0.76	Moderately Ready
Becoming an outstanding student	4.31	0.79	Very Much Ready
Increasing efforts	4.28	0.74	Very Much Ready
Identifying weaknesses and working on improvement	4.22	0.74	Very Much Ready
Overall	4.17	0.76	Moderately Ready

Legend: 4.21 – 5.00 - Very Much Ready; 3.41 – 4.20 -Moderately Ready; 2.61 – 3.40 –Ready; 1.81 – 2.60 -Slightly Ready; 1.00 – 1.80 -Not Ready.

Table 3 displays the level of learning readiness in terms of motivation of the students with an overall mean of 4.17; learners are at the level of moderately ready in term of motivation in their Arabic lesson. The highest mean for the student motivation variable is 'becoming an outstanding student' which is a mean of 4.31. Having the highest mean, the respondents signify that they are able to see the importance of purpose setting in learning Arabic subject. Their attitude as a learner contributes a great factor to whether they will excel or not in Arabic learning. The second highest mean for the student motivation variable is the indicator of students increasing their learning efforts which is a mean of 4.28. Next, the third highest item for student motivation variables is the indicator of 'identifying weaknesses and working on improvements' which is a mean of 4.22. The results of the first two indicators, 'motivated' (mean: 4.00) and 'enthusiastic' (mean: 4.02), are high and quite similar in magnitude, indicating that, on average, students are moderately motivated and enthusiastic about their Arabic learning.

The contrast between the first two indicators, considered moderately ready, and the next three, considered very much ready, suggests that while students are generally motivated and enthusiastic, they are even more prepared and motivated to excel and put in increased effort in their Arabic learning. The latter three indicators indicate a remarkably prominent level of readiness to succeed and improve, reflecting a strong commitment to their Arabic studies. This contrast in results suggests that students not only have a baseline motivation and enthusiasm but are also particularly driven to excel and continuously improve in their Arabic learning.

Arabic scholars often study motivational elements in learning Arabic, exploring aspects such as the level of students' motivation, factors influencing motivation, intrinsic and extrinsic motivation levels, and students' motivational beliefs. The study of student motivation is also often linked to aspects such as students' attitudes and academic achievement in Arabic.

Some studies that specifically measure students' motivation levels produce the same findings as this study. Among them, the findings of Fadzil et al. (2019) on 316 fifth-form students in six Arabic secondary schools of the Melaka Department of Islamic Religion (SMA JAIM) who sat for the Sijil Pelajaran Malaysia (SPM) exam in 2017 for the Arabic subject found that on average, the respondent's score for student motivation was at a high level.

Meanwhile, Derahman (2011) conducted a study related to the motivation of learning Arabic among Tourism diploma students in the Hospitality Department at Merlimau Polytechnic, Melaka. The results of the study show that the level of student motivation towards learning Arabic is at a prominent level.

In conclusion, investigations into student motivation levels across different levels consistently yield positive and encouraging outcomes. These results are likely influenced by a combination of internal and external factors that impact students engaged in the study of Arabic. The prevailing motivation observed in various studies underscores the potential for successful and fulfilling experiences in Arabic language education.

Table 4. The Result of Student's Arabic Language Prior Knowledge

Indicators	Mean	SD	Interpretation	
Knowing nouns, verbs & particles	3.42	0.98		Moderately Ready
Knowing pronouns	3.64	0.96		Moderately Ready
Understanding the conjugation of verbs	3.36	1.11		Ready
Know how to construct simple sentences		3.39	1.10	Ready
Able to create complete sentences	3.19	1.08		Ready
Able to communicate briefly	2.95	1.06		Ready
Able to identify grammar mistakes	2.88	1.04		Ready
Overall	3.26	1.05		Ready

Legend: 4.21 – 5.00 - Very Much Ready; 3.41 – 4.20 -Moderately Ready; 2.61 – 3.40 –Ready; 1.81 – 2.60 -Slightly Ready; 1.00 – 1.80 -Not Ready.

Based on the findings in Table 4, the assessment of students' Arabic learning readiness in term of their Arabic language prior knowledge shows an overall mean of 3.26, indicating that the learners are ready. 'Knowing pronouns' received the highest mean of 3.64, indicating a moderately ready level. The second variable, 'knowing nouns, verbs, and particles,' was also assessed as moderately ready (3.42). However, the respondents assessed the other five variables as ready. The variable 'know how to construct simple sentences' (3.39) received the highest mean that indicates readiness, followed by 'understanding the conjugation of verbs' (3.36), 'able to create complete sentences' (3.19), and 'able to communicate briefly' (2.95). Meanwhile, the variable 'able to identify grammar mistakes' (2.88) received the lowest mean score.

These results show that students are more confident about their prior knowledge related to nouns, verbs, particles, and pronouns compared to the conjugation of verbs (the third variable) and constructing simple sentences (the fourth variable). The other three variables (able to create complete sentences, able to communicate briefly and able to identify grammar mistakes) are related to their ability to express themselves visually and verbally. Confidence in speaking, constructing sentences, and understanding verb conjugation may be influenced by the students' perception of their oral and written communication skills. These skills, crucial for practical language use, likely contribute to why they are assessed as ready rather than moderately ready.

Scholarly exploration into the prior knowledge of the Arabic language is relatively rare. This study is pioneering in its research on the level of mastery of students regarding their existing knowledge of Arabic.

6.0 SUGGESTIONS

For future research, several critical areas warrant attention and exploration. Firstly, given the scarcity of research on prior knowledge of Arabic, it is imperative to enhance the depth and breadth of studies in this domain. Specifically, research focusing on foundational topics in Arabic, beyond just the willingness to learn, can contribute significantly to the existing knowledge base.

The following recommendations provide a framework for potential future studies:

1. **Study of the Relationship Between Prior Knowledge of Arabic and Students' Interest and Motivation:** explore the intricate connections between students' prior knowledge of Arabic and their levels of interest and motivation. Understanding how prior knowledge influences these motivational aspects can shed light on effective strategies for enhancing engagement.
2. **Comprehensive Study of Prior Knowledge of the Arabic Language:** undertake a more extensive and in-depth exploration of basic topics within the Arabic language. By delving deeper into specific language components, researchers can uncover nuanced insights into students' mastery and comprehension.
3. **Holistic Examination of Prior Knowledge and Its Relationship with Educational Outcomes:** conduct a comprehensive study examining the broader impact of prior knowledge, particularly its correlation with various educational aspects, such as students' overall achievement. This would provide a holistic understanding of how prior knowledge influences academic outcomes.

By addressing these research avenues, scholars can contribute not only to the field of Arabic language education but also to the broader understanding of how prior knowledge interfaces with students' motivation, learning outcomes, and educational experiences.

7.0 CONCLUSION

In conclusion, an in-depth exploration into students' pre-existing interests, motivations, and knowledge levels before commencing studies in a particular field stands as an imperative undertaking. The revelations arising from such research endeavours carry profound implications for instructional design, facilitating the formulation of pedagogical methods that effectively sustain and elevate students' levels of interest and motivation.

Moreover, a nuanced understanding of students' pre-existing knowledge not only contributes to the enhancement of their proficiency in the subject matter, specifically in the domain of Arabic language studies in this instance but also holds broader applications that extend across diverse academic disciplines. The significance of this investigation is not confined solely to linguistic pursuits; rather, it extends to the broader educational landscape. Such insights empower educators to craft tailored approaches that resonate with the cognitive and motivational dimensions of learners, fostering an enriched and enduring educational experience.

REFERENCES

- Abdin, L. M. A. L., Taib, S. H., Ismail, M. A. (2019). Inovasi Sistem Pendidikan dan Strategi Pengajaran Bahasa Arab di Era Milenial 4.0. *ASEAN Comparative Education Research Journal on Islam and Civilization (ACER-J)*, 3(2),9–20.
- Abdullah, A. H., Sulaiman, A. Z. & Wan, A. W. I. (2015). Factors affecting motivation on learning Arabic. *Jurnal Islam dan Masyarakat Kontemporari*, 82-97. <https://doi.org/10.37231/jimk.2020.10.1.112>.
- Abu Bakar, S. (1984). Kearah pembaikan dan perkembangan sistem pendidikan pondok di Malaysia. *Jurnal Pendidikan Islam*, 2.
- Al-Yasu'iy, R. N. (1986). *Ghara'ib al-Lughah al-'Arabiyyah*. Beirut. Dar al-Masyriq.
- Ariffin, N. A., & Nordin, M. (2022). Bahasa Arab Sebagai bahasa pengantar dalam Kurikulum Bersepadu Dini (KBD). *Universiti Teknologi MARA Institutional Repository*, 9.
- Dangol, R., & Shrestha, M. (2019). Learning readiness and educational achievement among school students. *International Journal of Indian Psychology*, 7(2), 467-476. DOI:10.25215/0702.056.
- Derahman, A. (2011). Motivasi pembelajaran bahasa Arab di kalangan pelajar Diploma Pelancongan Jabatan Hospitaliti di Politeknik Merlimau Negeri Melaka. [Disertasi Sarjana]. Fakulti Pengajian Islam, Universiti Kebangsaan Malaysia.
- Drew, C. (January 20, 2023). Prior Knowledge (educational concept): meaning & examples. *Helpful Professor*. <https://helpfulprofessor.com/prior-knowledge/>.
- Fadzil, N. A., Jaafar, N., Saat, R. & Musa, A. S. (2019). Motivasi pelajar Sekolah Menengah Arab Jabatan Agama Islam Melaka (SMA JAIM) Terhadap Pembelajaran bahasa Arab. *Kesidang Journal*(4),90-99.<https://123dok.com/document/y4m9npky-motivasi-pelajar-sekolah-menengah-jabatan-terhadap-pembelajaran-abstrak.html>.
- Geng, S., Law, K.M.Y. & Niu, B. (2019). Investigating Self-directed learning and technology readiness in blending learning environment. *Int J Educ Technol High Educ*, 17. <https://doi.org/10.1186/s41239-019-0147-0>.
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41, 111-127. http://dx.doi.org/10.1207/s15326985ep4102_4.
- Mohamad, A. H., & Wan, S. W. M. (2016). Minat dan sikap pelajar bachelar bahasa arab di IPTA Malaysia terhadap bahasa Arab. *Jurnal AL-ANWAR, Persatuan Bekas Mahasiswa Islam Timur Tengah (PBMITT)*, 1(1), 21 – 37. <http://psasir.upm.edu.my/id/eprint/53287>.
- Muhammad, I. (2013). Sikap dan realiti penguasaan kemahiran bahasa arab pelajar program j-QAF. *Journal of Language Studies*, 13(2).
- Samah, R. (2009). *Isu Pembelajaran bahasa arab di malaysia*. Universiti Sains Islam Malaysia.
- Siudad, R., & Aliazas, J. (2022). Learning readiness and level of science learning outcomes in a modular distance modality. *International Journal of Science, Technology, Engineering and Mathematics*, 2(4),39 - 53. <https://doi.org/10.53378/352929>.
- Syahrozi, H., Rochsantiningsih, D., & Handayani, E. I. P. (2018). Improving students' motivation in learning english using movie clip. *English Education Journal*, 7(1),55-63. DOI:<https://doi.org/10.20961/eed.v7i1.35835>.

THE INFLUENCE OF FEAR AND MOTIVATION TOWARDS THE LEARNING OF MANDARIN AS A FOREIGN LANGUAGE

Stephanie Tay Cin Wun¹, Jenny Yap Tze Kie^{2*}, Loh Siaw San³, Chong Ni Pei⁴

^{1,4}Akademi Pengajian Bahasa, Universiti Teknologi MARA,
UiTM Shah Alam, 40450 Shah Alam, Selangor, Malaysia

^{2,3}Akademi Pengajian Bahasa, Universiti Teknologi MARA Cawangan Samarahan,
Jalan Meranek, 94300 Kota Samarahan, Sarawak, Malaysia

* Corresponding Author

Email : ¹stephanie@uitm.edu.my, ²tzekie@uitm.edu.my, ³siawsan@uitm.edu.my,
⁴chongnipei@uitm.edu.my

Received: 24th November 2023

Accepted: 18th March 2024

ABSTRACT

This study examines Mandarin learners' views on how anxiety and motivation affect language acquisition and answers three research questions: i. What is the perception of learners regarding their fear of acquiring proficiency in a foreign language? ii. How do learners perceive their level of motivation to acquire proficiency in a foreign language? iii. Does a correlation exist between the fear of acquiring knowledge and the level of motivation to acquire proficiency in a foreign language? This quantitative study used purposive sampling to survey 141 UiTM Mandarin students. The 5-point Likert scale used in the survey is based on Gardner (2001) and Horwitz et al. (1986). The survey has three parts. Section A covers demographics. Section B covers motivation. Section C covers anxiety about learning a foreign language. Research shows language acquisition issues and negative evaluations contribute to student learning anxiety. Mandarin exams may cause learning anxiety, but they don't affect language acquisition. Students learn Chinese independently for three main reasons: Mandarin's popularity, job prospects, and the desire to travel and experience Chinese culture. Another factor is student enjoyment of classroom activities. However, current empirical research cannot definitively link Mandarin language anxiety and language learning motivation.

Keywords: Anxiety, Language Learning, Mandarin Language, Motivation

1.0 INTRODUCTION

1.1 Background of Study

Acquiring proficiency in a different language provides you with a competitive advantage. China's ascent has elevated Mandarin to a highly sought-after language to acquire. The Belt and Road Initiatives have sparked the curiosity of Mandarin learners. Over the past decade, ASEAN nations that have strong connections with China have witnessed the tangible manifestation of the "Chinese boom" since the inception of the Belt and Road Initiative. The increase in demand for technical professionals proficient in Mandarin is the reason behind this shift, as they are required to implement the initiative in various sectors. Furthermore, several Middle Eastern and African countries have implemented Chinese

language programs, in addition to ASEAN. The number of individuals learning and speaking Mandarin is experiencing a significant and rapid increase.

Nevertheless, acquiring proficiency in Mandarin is widely regarded as challenging. The intricacy of language, distinct characters, and subtle inflections pose challenges for individuals from diverse linguistic backgrounds. These factors contribute to the emotional and cognitive difficulties that children encounter in their education. Fear and motivation play a vital role in the achievement and well-being of Mandarin language learners within this context.

It is imperative for individuals studying Mandarin, educators, developers of educational programs, and decision-makers to comprehend the correlation between fear and motivation. Studying the impact of fear and motivation on learning can enhance Malaysian learning strategies and support systems. Consequently, this can equip individuals with the aptitude and self-assurance to rapidly and fervently acquire Mandarin language proficiency.

1.2 Statement of Problem

The demand for Mandarin among non-Chinese learners has experienced significant growth over the past decade. Mandarin exhibits distinctions in comparison to Malay and English. The distinctive phonetics and ideographic script of Mandarin can pose challenges for learners and elicit apprehension or unease in non-Chinese students studying the language. The extent to which students can conquer fear and anxiety is contingent upon their level of motivation. To alleviate anxiety and enhance motivation in foreign language learning, researchers need to analyse the pattern of students' learning anxiety and develop a comprehensive model of motivation.

According to Horwitz et al. (1986), it is important to differentiate foreign language learning anxiety from other forms of anxiety. Horwitz classifies foreign language learning anxiety into three categories: comprehension apprehension, fear of negative evaluation, and test anxiety. In addition, Horwitz and Cope (1986) created the Foreign Language Classroom Anxiety Scale (FLCAS), a widely utilised tool in studies and research on foreign language anxiety. Ting et al. (2016) employed the Foreign Language Classroom Anxiety Scale (FLCAS) to evaluate the level of anxiety related to the Mandarin language among non-Chinese undergraduates at UiTM. Ting reported that the students exhibited moderate levels of anxiety, primarily stemming from communication apprehension, fear of negative evaluation, and test anxiety.

According to numerous studies, motivation plays a crucial role in achieving success in language learning. Gardner's motivation theory has significantly influenced the motivation of individuals learning second and foreign languages for many years. According to Gardner (2001), "motivation" can be defined as active engagement in language learning, driven by the desire to accomplish a specific objective and experiencing positive emotions as a result. Gardner and his colleagues introduced integrative and instrumental orientations as factors that influence motivation. According to Gardner (1985), an integrative orientation refers to a favourable perception of the second language community and a strong aspiration to become a part of it. Instrumental orientation, in contrast to integrative orientation, entails acquiring a second language for pragmatic purposes such as enhancing employment prospects or increasing income.

1.3 Objective of the Study and Research Questions

Anxiety is a contributing factor in the process of acquiring a second language. When engaging in the acquisition of the Chinese language, students inevitably experience a certain level of anxiety associated with learning a foreign language. The purpose of this study is to investigate the perceptions of learners regarding their fear and motivation in the context of

foreign language acquisition. This study is conducted to address the following research inquiries:

- How do learners perceive their fear of learning a foreign language?
- How do learners perceive their motivation to learn a foreign language?
- Is there a relationship between fear of learning and motivation to learn a foreign language?

2.0 LITERATURE REVIEW

2.1 Fear of Learning a Foreign Language

In the process of learning Mandarin, non-Chinese learners may experience a certain level of foreign language fear or anxiety. Horwitz et al. (1986) conducted research on foreign language learning anxiety as an independent phenomenon distinct from other forms of anxiety in the language learning process. During their study, Horwitz and her colleagues discovered that many students considered learning a foreign language to be more anxiety-inducing than any other subject. They directed people's attention to classroom anxiety and, based on their research and the situational anxiety theory, developed the Foreign Language Classroom Anxiety Scale (FLCAS). Subsequently, these researchers began to recognize the impact of fear factors on the learning of Chinese as a foreign language, leading to empirical studies on learning anxiety and achieving some results.

2.2 Motivation to Learn a Foreign Language

Motivation plays a pivotal role in the process of learning a foreign language. It is often related as one of the primary driving forces behind an individual's success in acquiring proficiency in a new language. Motivation in the context of foreign language learning encompasses a complex interplay of cognitive, affective, and social factors that influence an individual's willingness to engage in the language learning process.

Motivation is not a one-size-fits-all concept, and its manifestation can vary across cultures and contexts. Kim's research (2001) on Korean learners of English, for example, found that integrative motivation was more pronounced among learners who admired Western culture, while instrumental motivation was linked to career goals. Recent studies continue to explore motivation, considering evolving factors such as technology and globalization. Warschauer and Meskill (2000) examined the impact of computer-assisted language learning on motivation, suggesting that technology can enhance motivation by providing interactive and engaging language learning experiences.

Past research on motivation in foreign language learning has enriched our understanding of the multifaceted nature of motivation. While early theories provided a foundation, contemporary studies have explored the interplay of diverse factors, including attitudes, classroom dynamics, cultural influences, and emerging technologies. These insights not only inform language educators but also contribute to the development of effective language learning strategies and policies that aim to promote motivation and proficiency in foreign language acquisition.

2.3 Past Studies on Fear of Learning a Foreign Language

Anxiety is a psychological and physical response to threat, a self-concept characterized by subjective, consciously perceived feelings of tension (Spielberger, 1983). Chinese scholars Wang and Wan (2001) argued that anxiety is an emotional state characterized by prolonged inability to achieve goals or overcome obstacles, resulting in a threat to one's self-esteem and

self-confidence, as well as an increase in feelings of failure and guilt. In short, anxiety induced by fear is an emotional variable and a psychological abnormality.

There have been many past studies on the fear of learning a Foreign Language. Zheng (2006) surveyed the influencing factors of international students' Chinese communicative behaviours. The study found that the interaction of gender and cultural background affected communicative fear and frequency of communication.

Li Ning (2013) used the Foreign Language Learning Anxiety Scale to conduct questionnaires, interviews, and classroom observations with Southeast Asian international students in Guangxi colleges and universities to investigate the learners' Chinese language learning anxiety and the status of individual differences. His research results showed that the Chinese language learning anxiety of international students was moderate. Learners' differences (e.g., learning experience, subjective evaluation of Chinese language proficiency) affect international students' Chinese learning anxiety.

Ting et al. (2016) researched to investigate Mandarin language anxiety level and its associated factors among non-Chinese learners and found that most of the non-Chinese learners experienced a moderate level of anxiety while learning Mandarin. The main factor that contributed to their language anxiety was communication apprehension, followed by fear of negative evaluation and test anxiety.

Rahmat (2020) has many studies on foreign language learning. She states that anxiety about foreign language learning affects other performance and achievement in other language-related areas, creating a cycle of fear. Findings reveal that the communication apprehension that students portray, can lead to a fear of tests, negative evaluations, and even foreign language classes.

Rahmat et al. (2021) continued to further explore this the following year as well. Their study investigated the fear of foreign language learning among undergraduates, examining factors related to learners, instructors, and planned activities. The findings of this study revealed that fear of foreign language learning can manifest in the classroom through direct learning.

Abdullah et al. (2022) explored factors influencing students' lecture attendance and their potential reasons for discontinuing. Results of the survey revealed that students encounter fear and anxiety during lectures, but their desire to learn encourages them to overcome these challenges.

After reviewing the aforementioned studies, researchers have found that learning motivation plays a pivotal role in overcoming challenges such as fear and anxiety.

2.4 Past Studies on Motivation to Learn a Foreign Language

The study of motivation in foreign language learning has been a subject of extensive research for several decades. Scholars and researchers have delved into various aspects of motivation, seeking to understand its impact on language acquisition and the factors that influence learners' motivation. Many Studies have been done to investigate the learning of a foreign language, especially in terms of issues like how to recognize and reduce anxiety and how motivation takes place in the process of learning a foreign language.

The investigation conducted by Du Suyi (2010) delved into the intricate interplay of cognitive, emotional, and social factors on the motivation of Malaysian university students as they embark on the journey of acquiring proficiency in Mandarin. The author meticulously references pertinent reports that provide an insightful overview of the landscape of Mandarin language acquisition within the Malaysian context. The empirical findings illuminate that Malaysian university students, on average, exhibit a general moderation in their level of

motivation when it comes to the pursuit of Mandarin proficiency. Notably, self-efficacy, valence, and intrinsic interest emerge as potent catalysts directly impacting the motivational behaviours of learners. In contrast, learning objectives, attitude, self-efficacy, and learning apprehension exert their influence indirectly on motivational behaviour. It is noteworthy that learning apprehension and self-efficacy stand out as factors casting a negative shadow on motivation, while the remaining factors contribute positively to the motivational landscape. Of paramount significance, valence assumes the mantle of the most influential factor in this intricate motivational tapestry, followed closely in significance by attitude, learning objectives, intrinsic interest, learning apprehension, and self-efficacy.

Furthermore, this comprehensive study underscores the pivotal realization that Malaysian university students, each traversing their unique trajectory of Mandarin language motivation, draw sustenance from divergent wellsprings of inspiration. For those whose Mandarin learning motivation appears more subdued, their incentives predominantly hinge on the affability they experience with their Mandarin instructors. Conversely, students with a more moderate inclination toward Mandarin learning pinpoint their motivation primarily to their positive disposition toward the Mandarin courses they engage in. In stark contrast, learners with an elevated zeal for Mandarin mastery primarily derive their impetus from the didactic materials encapsulated within their Mandarin textbooks. This illuminating inquiry reaffirms the notion that second language learners, irrespective of their geographic origins, navigate their linguistic journeys with distinct motivations. Within the specific milieu of Malaysian academia, instrumental motivation emerges as the predominant driving force propelling university students towards Mandarin proficiency.

Zubairi and Sarudin (2009) investigated the factors that drive Malaysian students to acquire proficiency in foreign languages. The survey was participated by more than 500 students from UKM and UiTM. The results indicated that both internal and external factors influenced the acquisition of foreign language proficiency in students from both educational institutions. However, t-tests demonstrated noteworthy disparities in motivation levels between the two universities. UKM students exhibited a higher degree of extrinsic motivation in acquiring a foreign language compared to UiTM students. The disparity could potentially be attributed to UKM's policy of not mandating foreign language courses for graduation, in contrast to UiTM. According to this study, enforcing compulsory foreign language requirements could enhance students' language proficiency and motivation. Proficiency in foreign languages can provide graduates with not only the ability to utilise modern technology and access information but also with additional advantages. Additionally, it can provide them with a competitive advantage in an evolving professional environment.

When a learner is motivated, they are more likely to engage with the language, practice regularly, and persist even in the face of difficulties, which can lead to successful language acquisition and improved language proficiency (Seven, 2020). It can also affect the quality of learning, as motivated learners tend to be more focused, attentive, and proactive in seeking out learning opportunities (Steinmayr et al., 2019). They may also be more willing to take risks and experiment with the language, which can help them to develop greater fluency and accuracy.

Both motivation and fear can significantly impact a person's ability to learn a foreign language. Understanding how these factors influence language learning can help educators and learners alike to create effective strategies for language acquisition. Therefore, there is a need to study the influence of motivation and fear in the learning of foreign languages in the context of Malaysian students.

2.5 Conceptual Framework

The conceptual framework of the study is presented in Fig. 1 below. This study explores the influence of fear of learning on motivation to learn a foreign language. According to Rahmat

(2020), the cycle of fear in learners can paralyse their motivation to learn a foreign language. According to Horwitz et al. (1986) learners' fear can be caused by communication apprehension, fear of negative evaluation, and test anxiety. If this fear is not checked by learners, they can lose motivation to learn. Gardner (2001) states motivation to learn a foreign language is portrayed in how positive the learners are towards the learning activities.

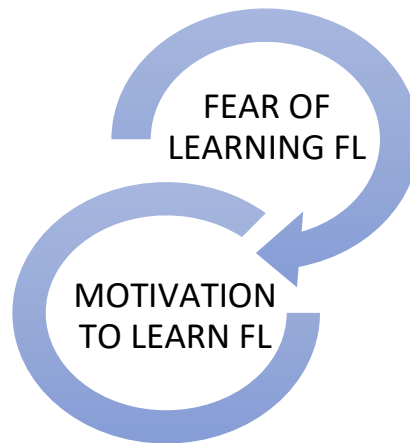


Fig. 1. Conceptual Framework of the Study-Influence of Fear on Motivation to Learn a Foreign Language

3.0 METHODOLOGY

This quantitative study is done to explore motivation factors for learning a foreign language among undergraduates. A purposive sample of 141 participants who took the Mandarin course (code: TMC401, TMC451 & TMC501) at the University of Technology Mara responded to the survey, and they were given a week to complete the survey. The instrument used is a 5 Likert-scale survey and is rooted in Gardner (2001) and Horwitz et al. (1986) to reveal the variables in Table 1 below. The survey has 3 sections. Section A has items on the demographic profile. Section B has 16 items on motivation. Section C has 33 items on the fear of learning a foreign language.

Table 1. Distribution of Items in the Survey

SECTION	VARIABLE	SUB-CATEGORY	NO OF TERMS	
B	MOTIVATION TO LEARN (Gardner, 2001)			16
C	FEAR OF LEARNING A FOREIGN LANGUAGE (Horwitz et al. 1986)	COMMUNICATION APPREHENSION	11	
		FEAR OF NEGATIVE EVALUATION	7	
		TEST ANXIETY	15	
				33
				49

Table 2- Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.873	49

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .873, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

4.0 FINDINGS

4.1 Findings for Fear of Learning Mandarin

This section presents data to answer research question 1- How do learners perceive their fear of learning the Mandarin language? According to Horwitz et al. (1986), fear of learning a foreign language can be categorised into three and they are (i) comprehension apprehension, (ii) fear of negative evaluation, and (iii) test anxiety.

(i) COMMUNICATION APPREHENSION

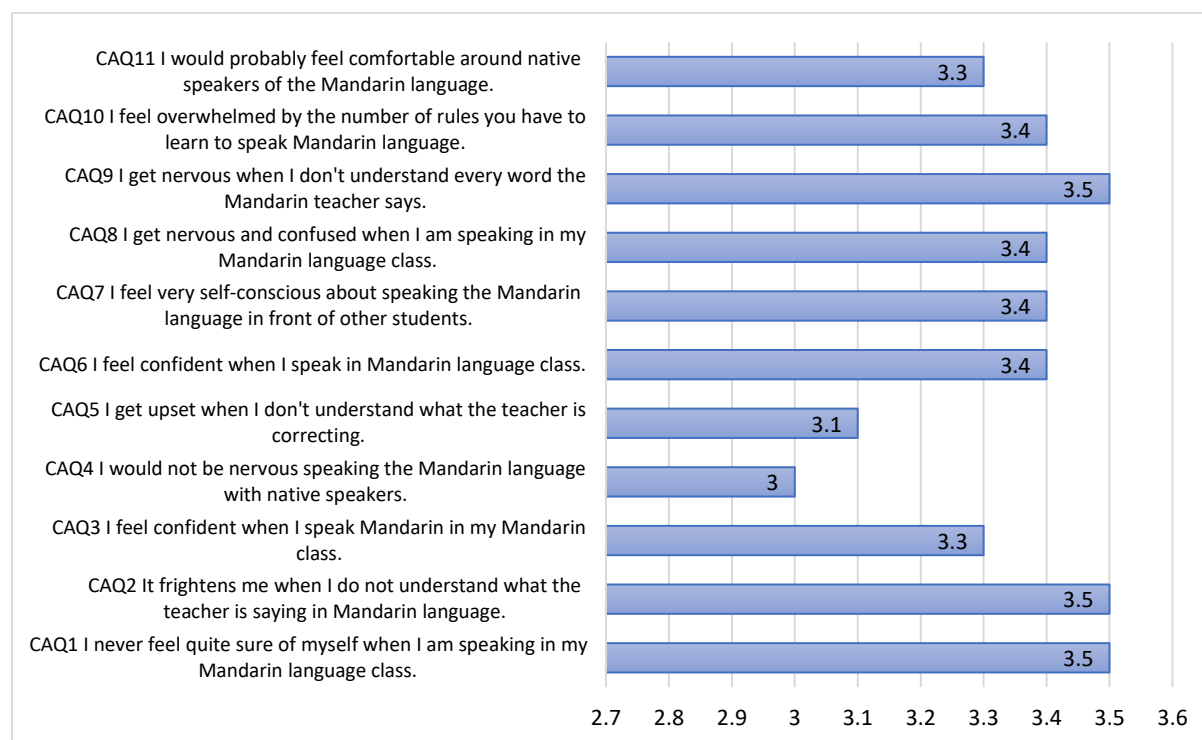


Fig. 6. Mean for Communication Apprehension

According to information in Fig. 6 above, the mean value of all questions exceeded 3, but not over 3.5, which showed that students experienced a moderate level of communication apprehension while learning and communicating in Mandarin. The highest mean score (3.5) for CA was present in three questions below: "I never feel quite sure of myself when I am speaking in my Mandarin language class", "It frightens me when I do not understand what the

teacher is saying in the Mandarin language”, and also “I get nervous when I don't understand every word the Mandarin teacher says.” This shows that students feel frightened when they find difficulties understanding what the teacher is saying in Mandarin language. Students also have no confidence in Mandarin speaking during the language class. The mean scores for “I would not be nervous speaking the Mandarin language with native speakers” are slightly lower (3.0), which shows that students are quite stressed when speaking with Mandarin native speakers. This might prevent students from performing well in Mandarin speaking and communicating.

(ii) FEAR OF NEGATIVE EVALUATION

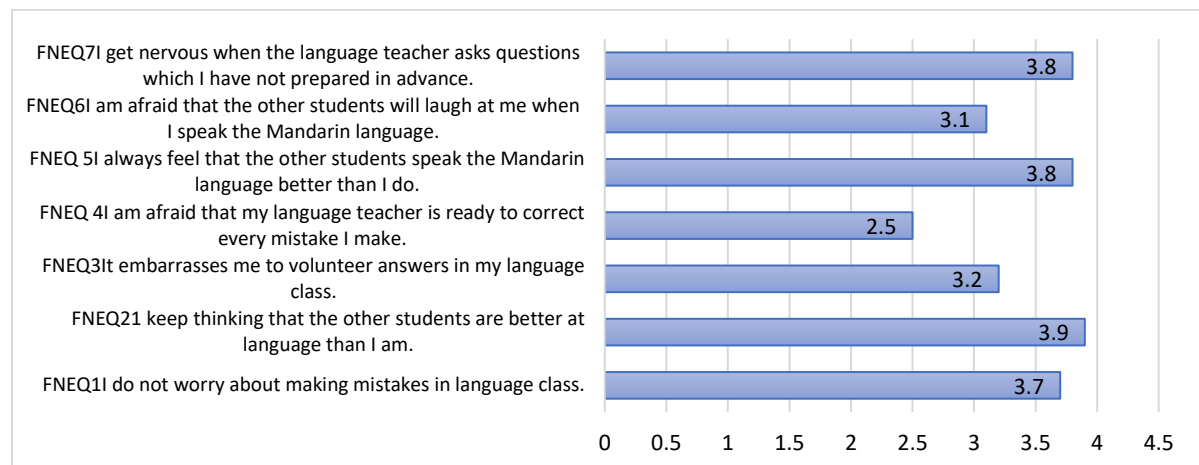


Fig. 7. Mean for Fear of Negative Evaluation

Fear of negative evaluation (FNE) is widely recognised as a fundamental characteristic of social anxiety disorder. Cognitive theories posit that fear arises due to individuals' tendency to engage in biased information processing, particularly when anticipating events that elicit fear, (Clark & McManus, 2002). The phenomenon of fear of negative evaluation in the context of Mandarin Language learning encompasses three distinct aspects. These include individuals experiencing apprehension towards evaluations made by others, experiencing frustration because of receiving negative evaluations and holding the belief that others will perceive them unfavourably.

According to the findings presented in Fig. 7, the statement " I keep thinking that the other students are better at language than I am " received the highest score of 3.9. Additionally, the statement "I always feel that the other students speak the Mandarin language better than I do." obtained a mean score of 3.8. There is a widely held belief that the presence of competitiveness and ambition among students, to surpass their peers in the educational journey, can evoke sentiments of disgust upon recognising their own perceived shortcomings. Consequently, this can result in the occurrence of anxiety. The presence of self-esteem in students leads to feelings of anxiety when language teachers pose questions that have not been prepared in advance. This anxiety stems from the fear of making mistakes in written or spoken language during class discussions. That is also the reason they are afraid that the other students will laugh at them when they speak Mandarin language. (3.1) These lead them to experience feelings of embarrassment when volunteering to answer in their language class.

(iii) TEST ANXIETY

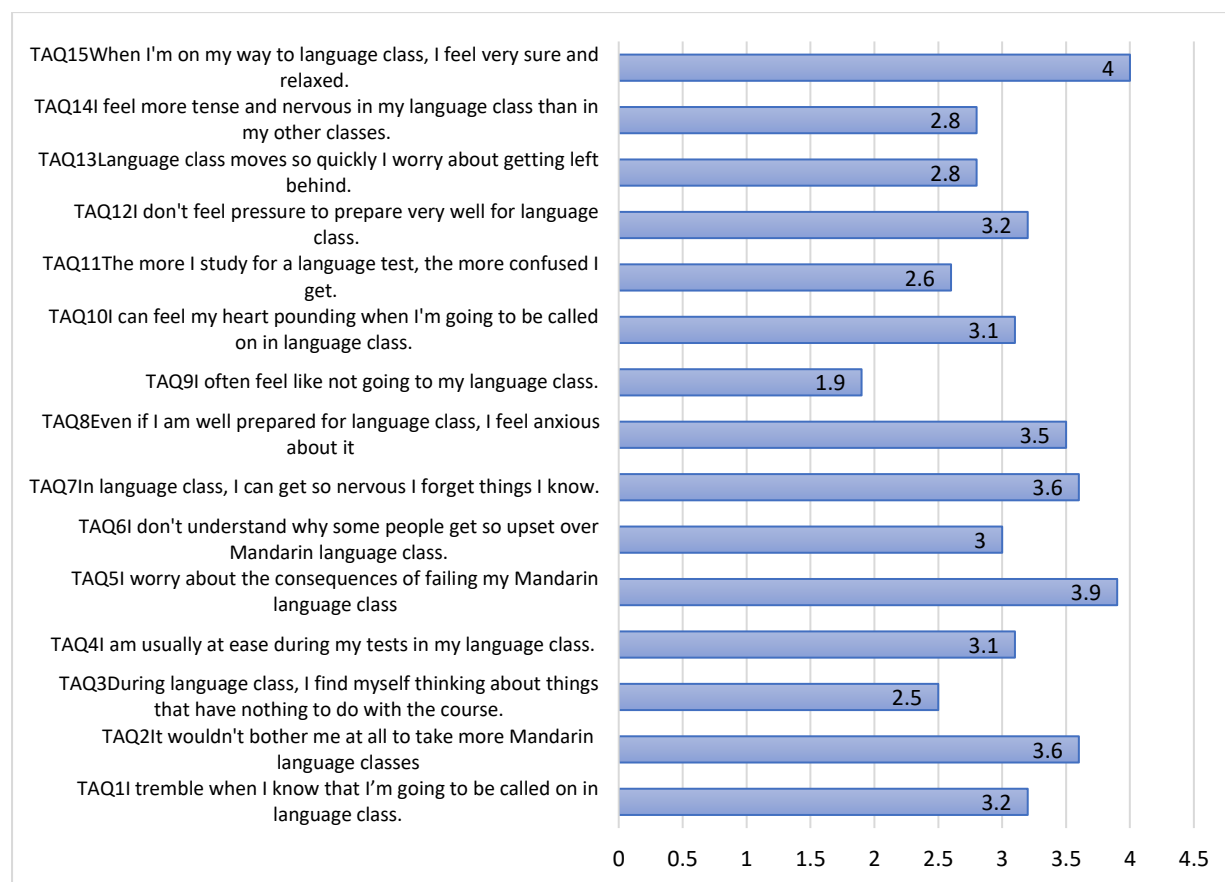


Fig. 8. Mean for Fear of Test Anxiety

Students have self-doubt and are demotivated when they perceive not doing well in the exam (Ismail et al., 2023). In some ways, testing of any kind tends to create a certain amount of anxiety for students (Li & Liu 2008). According to Fig. 8, students "worry about the consequences of failing my foreign language class" (3.9). Because students are concerned about their scores, "Even if I am well prepared for a language class, I feel anxious about it" (3.5), leading to "I can get so nervous I forget things I know" (3.6). When students are called upon, they experience "trembling" (3.2) and "can feel my heart pounding" (3.1). The mean value of all these questions exceeded 3, indicating the students' anxiety. Emotionality is associated with emotional facets that trigger an uncontrolled nervous system in producing physical reactions; nausea, and sweaty palms (Daud et al., 2022). The findings in this section support this argument.

In addition, "I often feel like not going to my language class." (1.9) and "During language class, I find myself thinking about things that have nothing to do with the course" (2.5) are the two lowest-scoring factors in test anxiety. "I am usually at ease during my tests in my language class." (3.1), indicating a positive attitude towards language classes. "The more I study for a language test, the more confused I get." (2.6). Reviewing homework helps students face exams. "Language class moves so quickly I worry about getting left behind" (2.8), and "I feel more tense and nervous in my language class than in my other classes" (2.8) both have meant less than 3. For the more positive questions, good feedback was received from students. "I don't feel pressure to prepare very well for language class." (3.2), "When I'm on my way to language class, I feel very sure and relaxed" (4.0), and "It wouldn't bother me at all to take more foreign language classes." (3.6). This suggests that students do not resist taking

Mandarin classes. Thus, the pressure and anxiety of Mandarin exams do not affect the motivation of non-Chinese students to learn Mandarin.

4.2 Findings for Motivation to Learn

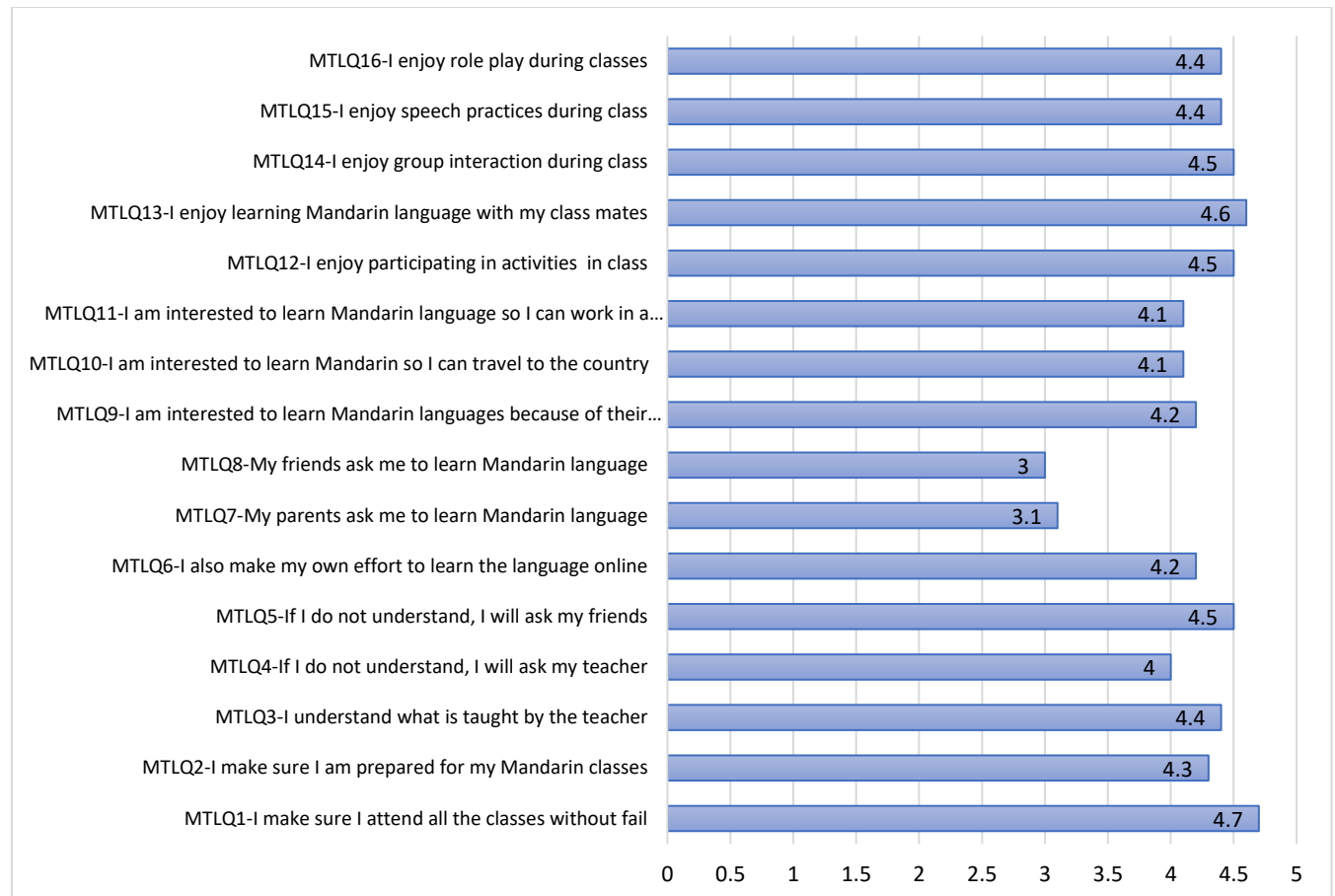


Fig 9. Mean for Motivation to learn a language

This section of the report focuses on presenting data and insights gathered to address Research Question 2, which delves into learners' perspectives on their motivation to acquire proficiency in the Mandarin language.

The findings suggest that learners' motivation to learn Mandarin language is influenced by a combination of intrinsic and extrinsic factors. According to Fig. 9, students show intrinsic motivation as they “make sure to attend all the classes without fail.” (4.7), “make sure I am prepared for Mandarin classes.” (4.3), and if they don’t understand, they will take the initiative to ask their teacher (4.0) or friends (4.5). “I also make my effort to learn the language online.” (4.2), the mean value of all these questions exceeded 4, meaning students are showing highly motivated by personal interest and passion in Mandarin language learning. The mean findings of students being told to learn the Mandarin language are low, either by parents (3.1) or by friends (3.0) showing that students' motives of learning are genuinely driven by personal interest, self-improvement, and passion for the Mandarin language. The findings prove what we discussed earlier in section “2.4 Past Studies on Motivation to Learn a foreign language”, when a learner is motivated, they are more likely to engage with the language, practice regularly, and persist even in the face of difficulties, which can lead to successful language acquisition and improved language proficiency (Seven, 2020).

Some learners were motivated by external factors, including academic requirements, career opportunities, and travel prospects associated with language proficiency. These practical benefits and social connections also significantly contributed to sustained motivation. "I am interested in learning Mandarin language because of their popularity." (4.2), "I am interested to learn Mandarin so I can travel to the country." (4.1), Recognizing and addressing challenges, setting realistic goals, and employing adaptive learning strategies emerged as effective methods to enhance motivation and facilitate more effective language acquisition. Peer and societal influence played a substantial role in motivating learners, with the mean in findings "I enjoy learning Mandarin language with my classmates." (4.6), "I enjoy participating in activities in class." (4.5), "I enjoy group interaction during class." (4.5), "I enjoy speech practices during class." (4.4) and lastly "I enjoy role play during classes." (4.4) showing influential figures and connections of participants demonstrated a willingness to adapt their learning methods based on what proved most effective for them.

4.3 Findings for Relationship between motivation to learn and fear of learning a foreign language

This section presents data to answer research question 3- Is there a relationship between fear of learning and motivation to learn a foreign language?

To ascertain the presence of a statistically significant relationship in the average scores among metacognitive, effort regulation, cognitive, social, and affective strategies, the data is subjected to analysis utilising SPSS software to compute correlations. The findings are displayed distinctly in Table 3 provided below.

Table 3. Correlation between Fear of Learning a Language and Motivation

Correlations		FEARLL	MOTIVATION
FEARLL	Pearson Correlation	1	.110
	Sig. (2-tailed)		.193
	N	141	141
MOTIVATION	Pearson Correlation	.110	1
	Sig. (2-tailed)	.193	
	N	141	141

The findings presented in Table 5 indicate a lack of significant correlation between the fear of language acquisition and motivation.

5.0 CONCLUSION

The objective of this research was to investigate the perspectives of 141 UiTM students regarding language anxiety and language learning motivation. According to existing research, it has been observed that learners commonly experience anxiety as a result of the uncertainty they encounter and their inability to completely attain mastery of the language during the learning process. Consequently, this feeling of being at a disadvantage in language acquisition arises. Furthermore, the adverse assessment of one's inability to surpass others in language proficiency and the failure to achieve advanced language mastery have a detrimental impact on the learner's self-esteem and give rise to feelings of anxiety. The findings align with the outcomes reported in the studies conducted by Ting (2016) and Rahmat (2016). Nevertheless, although the present study has ascertained that examinations do elicit anxiety among students, it has also established that anxiety in this domain does not substantively contribute to the impediment of learning. This aspect was not addressed in the previous study.

6.0 IMPLICATIONS AND SUGGESTION FOR FUTURE RESEARCH

This study has a reference that is significant to foreign language learning and teaching in Malaysia. The findings allow language educators to detect the barriers in language learning, which effectively helps students overcome their language learning difficulties. This study employed solely the quantitative research methodology. Future research endeavours could derive advantages from the utilisation of a mixed methods framework, which combines quantitative and qualitative methodologies. This would facilitate researchers in conducting a more comprehensive and efficient analysis of the participants' responses.

The scope of this study is limited to the demographic of students who are currently enrolled in Mandarin language courses at UiTM. The upcoming study shall expand its scope by including students who are currently enrolled in Mandarin language courses at other universities. Additionally, it is worth mentioning that this study did not include variables such as gender and cultural background in its research design. Subsequent inquiry may be undertaken in the future to examine this specific facet.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. All authors had carried out the fieldwork and interpretation of the findings. Author 2 had overlooked the write-up of the whole article, including writing the objectives, methodology, and conclusion of the study. Authors 3 and 4 prepared the literature review. Author 1 carried out the statistical analysis.

ACKNOWLEDGEMENTS

Special thanks to Assoc. Prof. Dr Noor Hanim Rahmat for the meticulous guidance and valuable advice throughout the entire research process. Additionally, appreciation goes to the collaboration and collective effort among team members, which led to the successful completion of this study. Furthermore, we would like to express gratitude to the students who participated in the questionnaire survey. Finally, thanks to everyone who contributed to the research, enabling the completion of this paper.

REFERENCES

- Abdullah, N. A. T., Sharif, S., Yean, C. P., Rahmat, N. H., Rashid, N. R. A., & Ahmad, N. (2022). An investigation of motives and fear of learning Japanese as a foreign language. *International Journal of Academic Research in Business and Social Sciences*, 12(1), 2209–2229. doi:10.6007/IJARBS/v12-i1/12150.
- Clark, D.M., McManus, F. (2002). Information processing in social phobia. *Biol Psychiatry*, 51(1), 92-100. doi: 10.1016/s0006-3223(01)01296-3.
- Daud, D., Hwa, C. P., Ahmad, H., How, H. E., Jincheng, Z., & Saidalvi, A. (2022). Exploring the causes of fear of foreign language learning. *International Journal of Academic Research in Business and Social Sciences*, 12(10), 3210 – 3223. doi: 10.6007/IJARBS/v12-i10/15163.
- Gardner, R. C. (1985). *Social Psychology and second language learning: the role of attitude and motivation*. Edward Arnold.
- Gardner, R. C. (2001). Integrative motivation and second language acquisition. In Z. Dörnyei, & R. Schmidt (Eds.), *Motivation and Second Language Acquisition* (pp. 1-19). University of Hawaii Press.
- Horwitz, E. K., Horwitz, M. B., & Cope J. A. (1986). Foreign language classroom anxiety. *Modern Language Journal*, 70, 125-132. doi:10.1111/j.1540-4781.1986.tb05256.x .

- Ismail, M.Z., Aziz.S.N.A, Othman.N, Rahmat, N.H., Yaakob. S.N.A & Jailani M.R. (2023). Exploring of perception of motivating factors and burnout among students learning islamic-related courses. *Insight Journal*, 10(2), 199-214. Doi:10.24191/ij.v0i0.23133.
- Kim, T. Y. (2001). Integrative motivation and instrumental motivation in second-language learning: The effect of language pairs. *System*, 29(1), 19-35.
- Li, H.B. & Liu, L. (2008). Language Anxiety in foreign language learning. *Journal of Liaoning Teachers College (Social Sciences Edition)*, 4, 102-105.
- Li, N. (2013). A Study of Anxiety in Chinese Language Learning among International Students [Master's Thesis]. Guangxi University, Guangxi, China.
- Rahmat, N.H. (2020) Investigating the Cycle of Fear in Foreign Language Learning. *European Journal of Foreign Language Teaching*, 5(1), 117-127. doi:10.6007/IJARBS/v11-i11/11618.
- Rahmat, N.H., Abas, N.A., Idris, N., Bakar, R.A. & Ismail, S. (2021). Social learning of fear: An investigation of foreign language learning anxiety. *International Journal of Asian Social Science, Asian Economic and Social Society*, 11(4), 200-208. doi: 10.18488/journal.1.2021.114.200.208.
- Spielberger, C. (1983). *The State-Trait Anxiety Inventory*. Mind Garden.
- Steinmayr, R., Weidinger, A. F., Schwinger, M., & Spinath, B. (2019). The importance of students' motivation for their academic achievement—Replicating and extending previous findings. *Frontiers in Psychology*, 10. doi: 10.3389/fpsyg.2019.01730
- Ting, H.L., Yeo, J.Y. & Chin, V. (2016). Mandarin language learning anxiety among non-Chinese learners: a case of Universiti Teknologi MARA, *Language Studies*, 5(2), doi: 10.33736/ils.1633.2016
- Wang, Y.C. & Wan, S.Y. (2001). Foreign language learning anxiety and its effects on foreign language learning: An overview of relevant foreign studies. *Foreign Language Teaching and Research*, (2), 122-126.
- Warschauer, M., & Meskill, C. (2000). Technology and second language learning. In J. Rosenthal (Ed.), *Handbook of undergraduate second language education* (pp. 303-318). Academic Press.
- Zheng, J. (2009). A survey analysis of the factors affecting foreign students in their chinese communication out of classroom. *Language Teaching and Linguistic Studies*, (6), 56-61.
- Zubairi & Sarudin (2009). Motivation to learn a foreign language in Malaysia. *GEMA: Online Journal of Language Studies*, 9(2). 73-87.

DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN MALAYSIA

Zaibedah Zaharum^{1*}, Mohamad Azwan Md Isa¹, Ruziah A Latif¹, Muhammad Firdhaus Md Isa²

¹*Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Johor Campus, 85000 Segamat, Johor, Malaysia*

²*Mas Awana Services Sdn. Bhd.
No 1, Jalan 5, Medan 120,
Bandar Baru Salak Tinggi Business Park,
43900 Sepang, Selangor, Malaysia*

*Corresponding Author

Email : ¹zaibe101@uitm.edu.my, ¹moham821@uitm.edu.my, ¹ruzia418@uitm.edu.my,
²muhammadfirdhaus.mdisa@masawana.com

Received: 28th November 2023

Accepted: 20th March 2024

ABSTRACT

Foreign Direct Investment (FDI) occurs when one country invests in another. Multiple factors have contributed to fluctuations in FDI flows globally. This study investigates the impact of the macroeconomic variables on FDI in Malaysia. Data were collected for the period of 30 years from 1992-2021 and analysed using Multiple Linear Regression models. The study's findings concluded that gross domestic product (GDP), inflation (INF), real interest rate (RIR), trade openness (TRA), unemployment rate (UNE) and exchange rate (EXC) are six major macroeconomic variables impacting FDI inflows. Results of the study reveal that gross domestic product (GDP), inflation (INF) and exchange rate (EXC) are positively related to foreign direct investment (FDI). This suggests that a robust domestic economic output, moderate inflation rates, and favourable exchange rates serve to attract foreign investment. However, the study reveals that the real interest rate (RIR), trade openness (TRA) and unemployment rate (UNE) are negatively related to foreign direct investment (FDI). Overall, this study contributes valuable insights into the intricate relationship between macroeconomic variables and FDI inflows in Malaysia, shedding light on how different economic factors collectively shape the investment landscape of the nation.

Keywords: Foreign Direct Investment, Malaysia, macroeconomic variables, Multiple Linear Regression

1.0 INTRODUCTION

Malaysia is a compelling example of a nation that has used foreign direct investment (FDI) to power its transformation into a vibrant and competitive global economy. FDI is crucial to the economic growth and development of nations around the world. Malaysia, a country in Southeast Asia, has carefully positioned itself as a desirable location for foreign investors by using its wealth of resources, advanced infrastructure, and pro-business laws. A key component of Malaysia's economic strategy over the last few decades, FDI has made major

contributions to job growth, technology transfer, and general industrial advancement. FDI inflows and economic growth, particularly in emerging nations, have been linked favorably in numerous studies. FDI is an investment that entails the transfer of capital from the home country to the host country based on an individual's or a nation's economic interests abroad (Markusen & Maskus, 2002). FDI, which also refers to cross-broader investment that directly involves in everyday operations of enterprises, typically takes place when a developed country invests in a developing one. It consists of specific international business transactions and foreign monetary flows.

In undeveloped nations, technological advancements have had a significant impact on economic growth and development (Sikder et al., 2022). The amount of FDI that enters a nation is regarded as a crucial indicator of that nation's economic globalization and integration into the larger global economy. Malaysia must embrace economic development if it hopes to survive. The expansion of Malaysia's economy depends on foreign investment. According to Asiedu (2002), developing countries have low domestic savings rates for investment; hence foreign investment is essential. Inflows of foreign direct investment into Malaysia are at all-time highs. It is intuitive that FDI should flow into countries with relatively stable economic conditions and strong institutions, and that investors should be concerned about political instability, inflexible regulations, and poor development indicators among prospective workers (Walsh & Yu, 2010). FDI provides emerging nations with skills in addition to finance and technology. These ended up assisting countries in growing faster by meeting the country's needs. The strong growth performances experienced by Malaysia's economy greatly depend on the FDI. FDI generates economic growth by increasing capital formation through the expansion of production capacity, promotion of export growth and creation of employment in Malaysia (Awan et al., 2014).

Figure 1 shows that in the past four years before 2021, Malaysia's FDI attractiveness had been declining substantially, which was only further worsened during the COVID-19 pandemic. It was pointed out by the Malaysian Investment Development Authority (MIDA) that the severe drop in net FDI inflows was the result of unstable politics, and non-transparent and inconsistent policies, causing the foreign investors' confidence to diminish. Moreover, uncertainties caused by the pandemic and the global political situation created a gloomy investment landscape worldwide, including in Malaysia. Fortunately, those days might now be left behind, as Malaysia experienced a strong positive increase in FDI inflows in 2021. Malaysia's impressive achievement in reattracting foreign investment has stemmed from several factors. Malaysia has benefitted from the recovery of global FDI flows as countries started to reopen borders after months of lockdown. The Malaysian government's relief from pandemic containment measures at the beginning of 2021 also helped to bring FDI flow into the country. Furthermore, strong governmental support with clear investment promotion policies and implementations plays a vital role in FDI attraction (ARC Group, 2022).

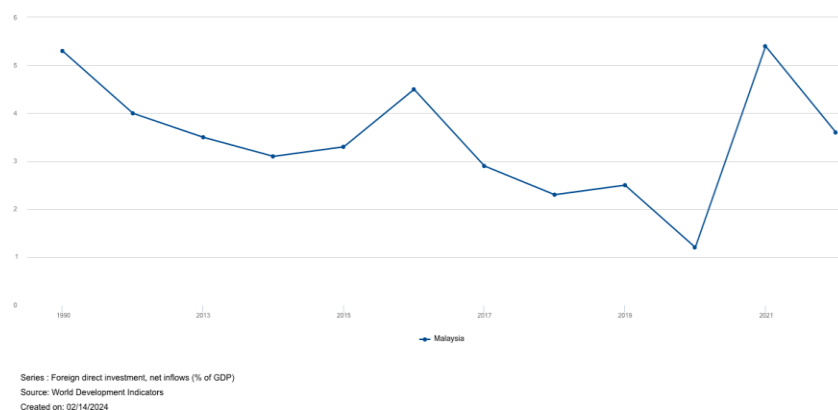


Fig. 1 Foreign Direct Investment, net inflows (% of GDP)

This study aims to investigate the effect of independent variables namely, gross domestic product (GDP), inflation (INF), real interest rate (RIR), trade openness (TRA), unemployment rate (UNE) and exchange rate (EXC) on the dependent variable which is foreign direct investment (FDI). The remainder of this study is arranged as follows; next section 2 reviews the previous related literature specific to the variables, followed by section 3 explains the conceptual framework and hypotheses, section 4 explains the data and methodology then section 5 discusses the empirical results and discussion, and lastly it concludes the study with recommendation in section 6.

2.0 LITERATURE REVIEW

2.1 Foreign Direct Investment (FDI)

FDI is one of the main instruments for worldwide economic integration. Firms view overseas expansion as a necessary step to achieve more effective access in the markets where they presently have low representation. FDI involves the inflow of real investments such as capital, technology, and expertise, which is typically done by multinational corporations (Rashid et al., 2023). FDI inflows impact employee income distribution in developing countries as it is very active in attracting multinational companies to invest in their country. FDI does not only create an expansion of capital, but it transfers the technology and skills to developing countries. Investments often lead to increased trade flows indicating that trade flows and investments are complementary (Hailu, 2010). FDI has always been the main source of financing a country's economic activities. National policies as well as global investment architecture influence the attraction of FDI to a larger number of developing countries and hence affect the ability of a country to get full FDI benefits for development. However, developing countries have been experiencing a decrease in FDI inflows over the years. For instance, between 2016 and 2020, FDI inflows in developing countries decreased by 42 percent (Gam et al., 2023). Therefore, developing countries are required to establish an effective, transparent and broad favourable policy environment for purposes of investment and to create institutional and human capacities to execute them. Therefore, macroeconomic factors play a key role in attracting FDI inflows. Various macroeconomic elements differ with time and impact practices, outputs as well as economic processes in an economy and hence they are key to investment decisions.

2.2 Gross Domestic Product (GDP)

Since economic indicators have policy implications, they have been widely researched across economies and rich literature is available to provide the right context to take the research in the field forward. The researchers have reviewed the related literature from the perspective of drivers of economic growth, the importance of FDI in economies of different types and the linkages between FDI and GDP growth rate. A study by Ang (2008), found that a positive role of GDP growth rates and a larger local market in Malaysia drew more investors, which in turn encouraged FDI into the country. Fan et al. (2020) examined the impact of the drivers of economic growth in developing countries and found that the growth rate of per capita GDP was linearly dependent on technological progress, gross capital formation, the initial level of output per capita, labour productivity growth and human capital formation. Hobbs et al. (2021) based on Albania, revealed a strong positive relationship between the FDI inflows and the GDP for a period from 1995 to 2012. The finding is also consistent with Irungu (2020) and Bosire (2020) who reported that GDP had a positive effect on FDI. Therefore, a high GDP and strong economic growth rate remain necessary conditions for Malaysia to attract FDI inflows. However, contrary to Zaharudin and Jalil (2022), discovered that FDI had a considerable negative influence on GDP, with an increase in FDI causing a decrease in GDP. It demonstrates that obtaining greater foreign investment will hinder Malaysia's economic growth.

2.3 Inflation Rate (INF)

There are several reasons why the dynamic interaction between FDI and inflation must be studied. Khan et al. (2023) stated that in both developed and developing countries, policymakers pay attention to achieving high sustainable economic growth with low inflation and it is also used as a poverty reduction strategy. The rate of low inflationary pressure is considered a symptom of economic stability found internally in the host country. Mustafa (2019) mentioned that the rate of low inflationary pressure in a country leads to an increase in the rate of return received from FDI. Asbullah et al. (2022) found that inflation can have negative results on FDI. Higher inflation may cause the return of FDI to be lower. The study by FoEh et al. (2020) revealed that the inflation rate has a significant effect on foreign direct investment. According to Abdul Rashid et al. (2017) the impact of inflation has a positive impact on FDI. Ramlan et al. (2021) study about the impact of economic growth, inflation rate and exchange rate on foreign direct investment in Malaysia. The study found that inflation has a positive strong relationship with FDI by 0.378 at a 1% significant level.

2.4 Real Interest Rate (RIR)

The interest rate is the rate that is charged or paid for the use of money or more precisely the cost of borrowing. Also, the real interest rate in the host economy which captures the host country's return on investment is an attractive factor for FDI. Ha and Choi (2019) investigate the determinants of FDI in OECD countries and find a positive relationship between interest rates and FDI. According to their empirical analysis, higher interest rates can draw in more FDI. This result lends credence to the notion that FDI flows can be impacted by real interest rates. The research of Faroh and Shen (2015) on the Sierra Leone economy using data between 1985 and 2012 found that the impact of high interest rates is not significant in explaining the variability of FDI flows. This means that a high-interest rate is not a key factor in attracting foreign firms and FDI in Sierra Leone.

2.5 Unemployment Rate (UNE)

The unemployment rate is defined as the percentage of the unemployed workforce. It's a lagging indicator, which means it increases or falls in response to economic changes rather than forecasting them. When a job is scarce, and the economy is under poor influence, unemployment increases. It is predicted to decline when the economy grows at a good pace and employment is plentiful. Further, the study by Gupta and Singh (2016) also shows a negative and significant relationship between the unemployment rate and FDI inflows in the case of Brazil, Russia, and India. This may mean that workers are putting more effort in to keep their jobs and thus willing to work for a lower wage rate which in turn is attracting more foreign players to invest in Russia and India. However, the study done by Paul et al. (2021) discovered that the unemployment rate had a significant and positive relationship with FDI in all models except the generalized method of moments (GMM) model.

2.6 Trade Openness (TRA)

The openness of an economy is a key factor that determines the extent of import and export relationships a nation will have with another (Asiedu et al., 2004). Openness is important not only for exports but also imports as many investors require intermediate inputs imported from other countries. It is generally accepted that greater openness in trade provides new investment opportunities and strengthens the link between domestic and international markets. Tintin (2013) stated that the ratio of trade (export + import)/GDP is often used as a proxy of trade openness and expected a positive relationship between trade openness and FDI inflow. Babatunde (2011) examines the role of the interaction between trade openness and infrastructural development in the attraction of FDI in SSA countries. The results indicate that trade openness and infrastructural development encourage the inflow of FDI in the sample

of countries and that there is a positive and statistically significant relationship between the interaction of trade openness with infrastructural development and FDI.

2.7 Exchange Rate (EXE)

Foreign direct investment (FDI) flows are heavily influenced by exchange rate fluctuations. When a country's currency depreciates or loses value to another country's currency; this could influence foreign direct investment (FDI) and discourage foreigners from making international investments. If a foreign investor's objective is to trade in the host country's market by supplying substitute products, in this case, the rise in the exchange rate will attract FDI because the exchange rate increase leads to the higher purchasing power of the host country, therefore foreign investors may take the opportunity to expand their business at the host country (Lily et al., 2014). Several studies have examined the relationship between exchange rates and FDI, focusing on factors such as exchange rate volatility, trade openness, GDP, and other macroeconomic variables. The study done by Mohamad et al. (2023) discovered that the exchange rate, exports, and political stability have a negative relationship with the level of FDI in developing countries. Kiyota and Urata (2004) found that exchange rate volatility has a positive impact on FDI. They analyzed FDI from the United States to various countries and observed that all estimated coefficients of exchange rate volatility were positive. Similarly, Lefen (2018) concluded that exchange rate volatility negatively affects FDI, using the GARCH model. They also identified a direct relationship between exchange rate, trade openness, and GDP with FDI.

3.0 CONCEPTUAL FRAMEWORK AND HYPOTHESES

Figure 2 displays the proposed research framework which consists of dependent variables (foreign direct investment) and six independent variables (gross domestic product, inflation, real interest rate, unemployment rate, trade openness, and exchange rate).

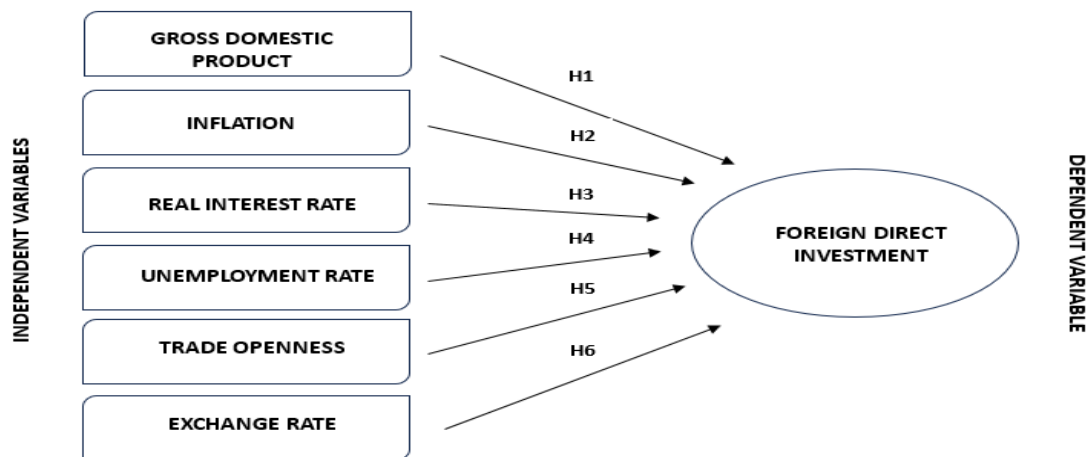


Fig. 2 Research Framework

Based on the framework, research hypotheses have been developed as follows:

- H1: There is a significant relationship between gross domestic product and foreign direct investment.
- H2: There is a significant relationship between inflation and foreign direct investment.
- H3: There is a significant relationship between real interest rates and foreign direct investment.
- H4: There is a significant relationship between the unemployment rate and foreign direct investment.

- H5: There is a significant relationship between trade openness and foreign direct investment.
- H6: There is a significant relationship between exchange rates and foreign direct investment.

4.0 DATA AND METHODOLOGY

The present study is based on the compilation of secondary data that was gathered from a variety of sources due to the variety of independent variables that were examined. The data used in this study are the annual data for the time series and the dependent and independent variables were observed on an annual basis for 30 years, from 1992 to 2021. Time series data is a collect the value observations collected by variables over time (Gujarati & Porter, 2009). The collected data is used to identify significant determinants of FDI. The data of variables are collected from the United Nations Conference on Trade and Development (UNCTAD) Statistics, Department of Statistics, Ministry of Finance Malaysia, Economic Report, Bank Negara Malaysia, World Bank Indicator, and DataStream. The data is analyzed using EViews 10 software and methodologies such as descriptive statistics, Pearson correlation analysis, and multiple linear regression analysis. Descriptive analysis will be the first analysis used to describe the basic features of this study's data. It provides simple summaries of the sample and the measures. Next, the correlation test is also conducted to examine the correlation among the variables studied. Lastly, multiple regression analysis provides a means of objectively assessing the degree and the character of the relationship between the independent variables and the dependent variable. The regression coefficient indicates each independent variable's relative importance in predicting the dependent variable (Sekaran & Bougie, 2013). The multiple regression model used in this study to find the relationship between variables is shown in Eq. (1).

$$FDI_t = \alpha + \beta_1 GDP_t + \beta_2 INF_t + \beta_3 RIR_t + \beta_4 UNE_t + \beta_5 TRA_t + \beta_6 EXE_t + \varepsilon_t \quad (1)$$

Where FDI inflow is the dependent variable at time t ; α is the constant represents the slope; β_1 to β_6 indicate the coefficients of each independent variable, measuring the changes in the dependent variable; GDP, INF, RIR, UNE, TRA, and EXE represent the independent variables at time t ; ε is the error term or residual value. The following section explains the results and discusses the implications of the findings.

5.0 EMPIRICAL RESULTS AND DISCUSSION

5.1 Descriptive Statistics Analysis

Table 1 shows the results of the descriptive statistics. The table summarizes the mean, maximum, and minimum data including the standard deviation, skewness, and kurtosis of each variable tested for the period from 1992 to 2021. Because of the outcomes appearing in Table 1, the mean for all variables is positive ranging from 2.4737 to 169.1667. This indicates that the distribution of data for all the variables appears to be skewed to the left. The dispersion of the data is reflected by the measure of standard deviation. All the variables are spread within the range of 0.4223 to 32.2758. The trade openness (TRA) variable recorded the highest at 32.2758 while the unemployment rate (UNE) was the lowest at 0.4223. In terms of skewness, gross domestic product (GDP), inflation (INF), trade openness (TRA), and exchange rate (EXC) are negatively skewed at 1.5967, 0.0136, 0.0316, and 0.4715 respectively while for the other variables, they are positively skewed. The Kurtosis results for the real interest rate (RIR), trade openness (TRA), and exchange rate (EXC) show that the variables are measured as a platykurtic distribution with a value of less than 3, at kurtosis values of 2.7663, 1.6043, and 2.3161 respectively. The platykurtic distribution is represented with less peak in the mean and thinner tails compared to the normal distribution. Meanwhile, the leptokurtic distribution was reflected in the foreign direct investment (FDI), gross domestic

product (GDP), inflation (INF), and unemployment rate (UNE) with the values of 3.2715, 5.6187, 3.1154, and 4.2113 respectively, which is more than 3. This indicates that the distribution of the data has fatter tails and sharper peaks compared to the normal distribution.

Table 1. Descriptive Statistics

	FDI	GDP	INF	RIR	TRA	UNE	EXC
Mean	6.9370	5.0952	2.4737	3.2366	169.1667	3.3707	3.5354
Median	5.1599	5.5291	2.2910	3.3500	170.0000	3.3550	3.7000
Maximum	18.5956	10.0027	5.4408	11.8000	220.0000	4.5400	4.4845
Minimum	0.1146	-7.3594	-1.1387	-3.9000	117.0000	2.4500	2.5265
Std. Dev.	4.2877	4.0304	1.4502	3.6614	32.2758	0.4223	0.5512
Skewness	0.7542	-1.5967	-0.0136	0.0486	-0.0316	0.3529	-0.4715
Kurtosis	3.2715	5.6187	3.1154	2.7663	1.6043	4.2113	2.3161
Observations	30	30	30	30	30	30	30

5.2 Correlation Analysis

Correlation may be defined as the linear relationship between two variables and the evaluation of the strength of the linear relationship using available statistical data. Table 2 shows that foreign direct investment (FDI) is positively correlated with the gross domestic product (GDP), inflation (INF) and exchange rate (EXC). Meanwhile, foreign direct investment (FDI) has negative correlations with the real interest rate (RIR), trade openness (TRA) and unemployment rate (UNE), respectively, where the correlation is seen as quite weak. From the observation, the probability value between real interest rate (RIR) and foreign direct investment (FDI) was 0.0025 means that there is a significance as the value was below 0.05. We also concluded that the probability value of 0.0000 indicates that there is a relationship between trade openness (TRA) and foreign direct investment (FDI) because the value is less than 0.05.

Table 2. Results of Pearson's Correlation Test

Variables	Correlation	Probability
FDI, GDP	0.1517	0.3037
FDI, INF	0.0582	0.4727
FDI, RIR	-0.5074	0.0025*
FDI, TRA	-0.6116	0.0000*
FDI, UNE	-0.0869	0.2069
FDI, EXC	0.2104	0.5009
*Denotes 5% significant level		

5.3 Multi-collinearity Analysis

The multi-collinearity test was conducted as robustness based on the variance inflation factor (VIF), which measures how much the variance of the estimated regression coefficient is inflated when the independent variables are correlated. However, there was no serious multicollinearity problem among predictor variables as shown in Table 3. The value of all Variance Inflationary Factor (VIF) is less than 10 and the tolerance values are greater than 0.1 for all variables (Hair et al., 1998).

Table 3. Variance Inflation Factors (VIF)

Variable	Centered VIF
C	NA
GDP	1.614253
INF	1.435820
RIR	1.322961
TRA	1.110570
UNE	1.234201
EXC	1.858269

5.4 Multiple Regression Analysis

In the current study, multiple regression analysis was performed to evaluate the relationship between the independent variables to justify the dependent variable. Based on the regression analysis result shown in Table 4, the real interest rate (RIR) has a negative and significant relationship with the foreign direct investment (FDI). In other words, a lower real interest rate (RIR) is associated with a higher likelihood of foreign direct investment (FDI). This finding supports Suhendra et al. (2022) who noted that real interest rate (RIR) also has a negative significant relationship with foreign direct investment (FDI). The results also reveal that trade openness (TRA) affects the foreign direct investment (FDI) inflow negatively as opposed to the theory, which suggests that the higher the level of openness, the less likely it is to attract foreign direct investment (FDI) in the long run. This finding is in line with a study done by Rathnayaka Mudiyansele et al. (2021). As a result, the null hypothesis must be rejected and changes in the real interest rate (RIR) and trade openness (TRA) will affect foreign direct investment (FDI) significantly. However, the gross domestic product (GDP), inflation (INF), unemployment rate (UNE) and exchange rate (EXC) are found to be an insignificant determinant in influencing the foreign direct investment (FDI) as the p-value is more than 0.05. As a result, the null will not be rejected and changes in those variables will not influence the foreign direct investment (FDI).

The R^2 value is 0.703869 indicates that 70.3869 percent of the variation in the dependent variable, FDI, is jointly explained by the variability of the six independent variables whilst the remaining 29.6131 percent is explained by other factors that are not included in the study. Meanwhile, the p-value of the F-statistic, which is less than a 5 percent significance level, indicates that the six selected independent variables in the regression strongly fit the model and can be used to predict the FDI inflow.

Table 4. Results of Multiple Regressions

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	24.97217	8.351823	2.990027	0.0065
GDP	0.161358	0.153369	1.052087	0.3037
INF	0.293491	0.401978	0.730117	0.4727
RIR	-0.518234	0.152839	-3.390725	0.0025*
TRA	-0.089920	0.015886	-5.660463	0.0000*
UNE	-1.662470	1.279909	-1.298897	0.2069
EXC	0.822863	1.203140	0.683930	0.5009
R-squared	0.703869			
Prob. (F-statistic)	0.000037*			
*Denotes 5% significant level				

6.0 CONCLUSIONS

The findings of this study indicate that real interest rate (RIR) and trade openness (TRA) have a negative and significant effect on foreign direct investment (FDI). These results signify that an increase in the RIR and an increase in the TRA trigger a decline in foreign direct investment. A negative significant relationship between the RIR, TRA, and FDI in Malaysia could carry noteworthy and multifaceted implications for the country's economic landscape. These results have been consistent and support the results of previous studies (Suhendra et al., 2022 ; Rathnayaka Mudiyansele et al., 2021).

A lower real interest rate usually signals a more favourable investment environment by reducing the cost of capital, which, in turn, could attract foreign investors seeking higher returns. However, a negative correlation may suggest that other factors, such as economic uncertainties, regulatory hurdles, or global market conditions, play a more dominant role in influencing foreign direct investment inflows than the interest rate alone. Policymakers may need to carefully assess the contributing factors, considering the country's economic context, to formulate targeted policies aimed at enhancing the overall investment climate and ensuring alignment with broader economic development goals.

If increased trade openness coincides with reduced foreign direct investment, policymakers may need to examine whether certain trade policies or regulatory environments deter foreign investors from establishing a physical presence. This scenario may prompt a re-evaluation of the coordination between trade and investment policies, ensuring that they complement rather than hinder each other. The findings may also underscore the importance of addressing sector-specific dynamics or mitigating barriers that hinder the synergy between trade and investment. Strategic adjustments in policy frameworks could be necessary to attract and sustain foreign direct investment inflows, contributing to Malaysia's overall economic development and global competitiveness.

In summary, the macroeconomic environment in Malaysia plays a crucial role in determining the level of foreign direct investment inflow. Stability, growth, and favourable government policies are key factors that can positively influence foreign investors' decisions to invest in the country.

REFERENCES

- Abdul Rashid, I. M., Yeong, S. J., Abu Samah, I. H., & Hassan Basri, H. (2017). Impact of inflation and exchange rate towards foreign direct investment (FDI) in the construction sector in Malaysia: An empirical study on cross-sectional data by using EViews, 1992-2012. *Jurnal Intelek*, 12(1), 79-84. <https://jurnalintelek.uitm.edu.my/index.php/main/article/view/149>.
- Ang, J. B. (2008). Determinants of foreign direct investment in Malaysia. *Journal of Policy Modeling*, 30(1), 185-189.
- ARC Group. (2022, October 7). *FDI in Malaysia recovered remarkably from years of contraction*. <https://arc-group.com/fdi-malaysia/>
- Abdullah, M. H., Shaari, M. S., Zainol, N., & Abidin, S. N. J. M. R. (2022). Determinants of Foreign Direct Investment (FDI). *Sciences*, 11(3), 213-232. doi: 10.6007/IJAREMS/v11-i3/14643.
- Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World Development*, 30(1), 107-119. doi: 10.1016/S0305-750X(01)00100-0.
- Asiedu, E., & Lien, D. (2004). Capital controls and foreign direct investment. *World Development*, 32(3), 479-490. doi: 10.1016/j.worlddev.2003.06.016.

- Awan, A. G., Ahmad, W., Shahid, P., & Hassan, J. (2014). Factors affecting foreign direct investment in Pakistan. *International Journal of Business and Management Review*, 2(4), 21-35.
- Babatunde, A. (2011). Trade openness, infrastructure, FDI, and growth in Sub-Saharan African countries. *Journal of Management Policy and Practice*, 12(7), 27.
- Bosire, E. M. (2020). Foreign direct investments into Eastern Africa Region: The Infrastructure development Nexus. *International Journal of Economics and Financial Issues*, 10(5), 370. doi: 10.32479/ijefi.10378.
- Fan, W., & Hao, Y. (2020). Empirical research on the relationship between renewable energy consumption, economic growth, and foreign direct investment in China. *Renewable Energy*, 146, 598-609. doi: 10.1016/j.renene.2019.06.170.
- Faroh, A., & Shen, H. (2015). Impact of interest rates on foreign direct investment: Case study Sierra Leone economy. *International Journal of Business Management and Economic Research*, 6(1), 124-132.
- FoEh, J., Suryani, N., & Silpama, S. (2020). The influence of inflation level, exchange rate, and gross domestic product on foreign direct investment in the ASEAN countries from 2007-2018. *European Journal of Business and Management Research*, 5(3). doi: 10.24018/ejbmr.2020.5.3.311.
- Gam, T. T. H., Oanh, D. L. K., & Dang, N. M. B. (2023). The impact of foreign direct investment on income inequality in developing countries: The Bayesian approach. *Jurnal Ekonomi & Studi Pembangunan*, 24(1). doi: 10.18196/jesp.v24i1.18164.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5th ed.). McGraw-Hill/Irwin.
- Gupta, P., & Singh, A. (2016). Causal nexus between foreign direct investment and economic growth: A study of BRICS nations using VECM and Granger causality test. *Journal of Advances in Management Research*, 13(2), 179-202. doi: 10.1108/JAMR-04-2015-0028.
- Ha, Y., & Choi, B.-R. (2019). What determines foreign direct investment in the finances of OECD countries? *Journal of Industrial Distribution & Business*, 11(10), 15-23. doi: 10.13106/ijidb.2019.vol10.no11.15.
- Hailu, Z. A. (2010). Impact of foreign direct investment on trade of African countries. *International Journal of Economics and Finance*, 2(3), 122-133. doi: 10.5539/ijef.v2n3p122.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. (1998). *Multivariate Data Analysis* (5th ed.). Prentice Hall.
- Hobbs, S., Paparas, D., & AboElsoud, M. E. (2021). Does foreign direct investment and trade promote economic growth? Evidence from Albania. *Economies*, 9(1), 1. doi: 10.3390/economies9010001.
- Irungu, E. W. (2020). *The Impact of Selected Macroeconomic Variables on Foreign Direct Investment in Kenya* (Doctoral dissertation, University of Nairobi).
- Khan, U. H., & Imran, M. D. (2023). Relationship between inflation and other macro-economic factors: Comparative study of Germany, Japan, and New Zealand. *Journal of Economic Impact*, 5(1), 76-87. doi: 10.52223/jei5012309.
- Kiyota, K., & Urata, S. (2004). Exchange rate, exchange rate volatility, and foreign direct investment. *The World Economy*, 27(10), 1501-1536. doi: 10.1111/j.1467-9701.2004.00664.x.
- Lefen, L. (2018). The effect of exchange rate volatility on international trade and foreign direct investment (FDI) in developing countries along "One Belt and One Road." *International Journal of Financial Studies*, 6(4), 86. doi: 10.3390/ijfs6040086.
- Lily, J., Kogid, M., Mulok, D., Thien Sang, L., & Asid, R. (2014). Exchange rate movement and foreign direct investment in ASEAN economies. *Economics Research International*, 2014.
- Markusen, J. R., & Maskus, K. E. (2002). A unified approach to intra-industry trade and foreign direct investment. In *Frontiers of Research in Intra-Industry Trade*, 199-219. doi: 10.1057/9780230285989_11.

- Mohamad, N. I. F. N., Othman, J., Tarmizi, R. M., & Hamidi, N. N. M. (2023). Impacts of political risk and macroeconomics factors towards foreign direct investment in developing countries. *International Journal of Finance, Economics and Business*, 2(1), 61-75. doi: 10.56225/ijfeb.v2i1.47.
- Mustafa, A. M. M. (2019). The relationship between foreign direct investment and inflation: Econometric analysis and forecasts in the case of Sri Lanka. *Journal of Politics and Law*, 12, 44. doi: 10.5539/jpl.v12n2p44.
- Paul, S. C., Rosid, M. H. O., Xuefeng, Z. ., & Islam, M. R. (2021). The macroeconomic determinants of cross-country FDI flows: A comparative Analysis through the Driscoll–Kraay, 2SLS and GMM Models. *Asian Economic and Financial Review*, 11(2), 129–140. <https://doi.org/10.18488/journal.aefr.2021.112.129.140>
- Ramlan, H., Salleh, M. F. Md, & Shamsuddin, M. Y. (2021). The impact of economic growth, inflation rate, and exchange rate on foreign direct investment in Malaysia. *Global Business and Management Research*, 13(4s), 612-617.
- Rashid, R. M., Ma'in, M., Isa, S. S. M., Nasir, N. N. E., & Mohamad, N. H. S. S. (2023). Factors influence on export: Evidence from Malaysia. *Journal of Islamic*, 8(53), 25-32.
- Rathnayaka Mudiyansele, M. M., Epuran, G., & Tescaşiu, B. (2021). Causal links between trade openness and foreign direct investment in Romania. *Journal of Risk and Financial Management*, 14(3), 90.
- Sekaran, U., & Bougie, R. (2013). *Research Methods for Business*. John Wiley & Sons.
- Sikder, M., Wang, C., Yao, X., Huai, X., Wu, L., Kwame Yeboah, F., Wood, J., Zhao, Y., & Dou, X. (2022). The integrated impact of GDP growth, industrialization, energy use, and urbanization on CO2 emissions in developing countries: Evidence from the panel ARDL approach. *Science of the Total Environment*, 837, 155795. doi: 10.1016/j.scitotenv.2022.155795.
- Suhendra, I., Istikomah, N., & Anwar, C. J. (2022). On foreign direct investment from the ASEAN-8 Countries: A panel data estimation. *WSEAS Transactions on Business and Economics*, 19, 150-160.
- Tintin, C. (2013). Foreign direct investment inflows and economic freedoms: Evidence from central and Eastern European countries. *Advances in Business-Related Scientific Research Journal*, 4(1), 1-12.
- Walsh, J. P., & Yu, J. (2010). Determinants of foreign direct investment: a sectoral and institutional approach. *IMF Working Paper No. 10/187*. <https://ssrn.com/abstract=1662260>. doi: 10.2139/ssrn.1662260.
- Zaharudin, N. A. S & Jalil, S. A. (2022). A regression analysis on the impact of fdi, domestic investment, and Malaysian economic growth. *INSIGHT Journal*.

VALIDITY ASSESSMENT OF STUDENTS' ACCEPTANCE TOWARDS ONLINE DISTANCE LEARNING

Nur Huda Jaafar^{1*}, Mohd Hanafi Azman Ong², Haslenda Yusop³, Suhanah Rosnan⁴, Zuriati Ismail⁵,
Mohd Hafizan Musa⁶, Rashidah Mokhtar⁷

^{1, 2, 3, 4, 5, 6, 7}College of Computing, Informatics and Mathematics, Universiti Teknologi MARA Cawangan Johor,
Kampus Segamat, Johor, Malaysia

*Corresponding Author

Email : ¹nurhu378@uitm.edu.my, ²napieong@uitm.edu.my, ³haslenda381@uitm.edu.my,
⁴suhan009@uitm.edu.my, ⁵zuria986@uitm.edu.my, ⁶mohdh233@uitm.edu.my, ⁷rashi271@uitm.edu.my

Received: 13th February 2024
Accepted: 22nd November 2023

ABSTRACT

Online distance learning is getting more popular as one of the approaches for delivering teaching and learning. The student's acceptance of online distance learning should be measured rigorously because it helps to indicate the teaching and learning delivery levels of success. An evaluated and validated instrument to measure students' acceptance of online distance learning is needed for this purpose. To achieve this, Exploratory Factor Analysis (EFA) and Nomology Analysis are used to evaluate and validate students' acceptance of online distance learning instruments. The EFA of this study on 32 items resulted in the construction of seven dimensions: Self-Productivity, Content Productivity, Effort Expectancy, External Influence, Personal Innovativeness, Self-Management Learning, and Behavioural Intention. The correlation analysis indicates that all the bivariate relationships among the components were significantly correlated with at least a 95% confidence level. This result shows that the instrument can be considered valid and reliable and used to measure students' acceptance of online distance learning.

Keywords: Nomology Analysis, Online Distance Learning, Students' acceptance.

1.0 INTRODUCTION

Technologies for teaching and learning have undergone many evolutions to be paralleled with the growth of information technology. The utilization of internet technology to assist individuals in their daily routines has a significant influence on their tendency to embrace and explore the domain of online education and learning. Online distance learning has gone through many improvements; from being simply delivered through the telephone, now we can see more online distance learning platforms such as Google Classroom, YouTube, Microsoft Teams, and Kahoot (Stevanović et al., 2021) use the Internet as a more convenient platform. Moreover, the use of multimedia and interactive elements makes online distance learning more fun. Additionally, certain academic institutions also undertake efforts to develop their online distance learning platform for delivering exemplary instruction and knowledge transfer.

The COVID-19 pandemic that hit the world in the past couple of years has driven many educational institutions to make drastic decisions in enforcing online distance learning as one solution to ensure that teaching and learning are still delivered successfully despite the implementation of lockdown procedures in many countries (Mohtar & Yunus, 2022; Patricia

Aguilera-Hermida, 2020; Qiao et al., 2021). Although many educational institutions had their online learning platforms to be utilised by their students and lecturers before the pandemic, most of these institutions simply used these platforms as a supporting tool for teaching and learning activities. The main medium of teaching and learning is still the face-to-face approach. As a result, when the pandemic hit, both students and lecturers must adapt to this new norm, specifically in teaching and learning delivery and drastically accepting the move from face-to-face mode to online distance learning mode as a main medium.

Measuring students' acceptance of online distance learning is crucial and needed as one of the indicators of educational institutions' success in online distance learning implementation. In this paper, we will analyse the items used to measure students' acceptance of online distance learning. The Exploratory Factor Analysis and Nomology Analysis have been utilised to measure the reliability and validity of the instruments. Questionnaires have been distributed to 250 students from Universiti Teknologi MARA who are taking computer science courses.

We will show the literature review of this study in the next section followed by the research methodology. Finally, the discussion of the analysis result is presented before we conclude the paper in the final section.

2.0 LITERATURE REVIEW

2.1 Online Distance Learning

Since the COVID-19 pandemic hit the world, all educational sectors have tried to solve the issue with the help of technology. Online distance learning is a method of delivering teaching content and making the students able to learn. According to Stevanović et al. (2021), distance learning was once performed using the telephone for communication and post to provide the printed teaching material. As the technology evolved, they started recording videos and distributing them together with printed materials. Recent development shows that online distance learning which is based on modern technology and the internet has become the primary method of teaching (Stevanović et al., 2021). The current situation, especially during the COVID-19 pandemic, shows that the use of modern technology and the internet helps a lot of students, lecturers, and education institutions solve the problem of teaching and learning delivery. The teaching and learning activities can be done anytime and anywhere through the use of current technology and the internet.

According to Haningsih and Rohmi (2022), online learning can be described as a learning experience using internet devices where the students can learn from any location whether it is in synchronous or asynchronous mode. Thus, online distance learning can be defined as every phase in the teaching and learning done via the Internet inclusive of the process of sharing materials besides providing communications among students and lecturers. Not only that, but it also includes the way the assessments or exams are being conducted online outside of the classroom (Haningsih & Rohmi, 2022; Stevanović et al., 2021).

There are few opinions from researchers on online distance learning. Firstly, online distance learning must be done to retain the student's learning enthusiasm and their academic performance (Stevanović et al., 2021). According to Rahim et al. (2020), online distance learning has gained a positive impact and helps in developing the student's creative thinking as well as their learning enthusiasm. It also improves the learning interactivity levels between the lecturers and students (Ikhsan et al., 2019). On top of that, it can help to facilitate the learning space and time flexibility. Pinchbeck and Heaney (2022) stated that the demand for online learning had increased during the pandemic due to study and schedule flexibility. In addition, the lecturers can update the learning content anytime within their capacity through online learning. The transition from traditional learning to online learning in higher education helps the university to ensure the educational process continues by putting a strong emphasis

on both students' and lecturers' needs (Huang et al., 2020). Moreover, the factors of familiarity with the modern tools in teaching and learning among the lecturers and students do help in their acceptance of the new approach to teaching and learning. Haningsih and Rohmi (2022) also stated that online distance learning is appropriate because it is easy-going, low-cost, and can be executed.

2.2 The Evolution of Online Distance Learning Technologies

The distance learning method has been implemented for many years. Technologies have played as a main instrumental role in the revolution of distance learning (Bozkurt, 2019; Traxler, 2018). Fig 1 shows the ages and generations that were shaped and determined by the dominant communication technologies adopted by distance learning (Bozkurt, 2019). From this figure, we can see that the era of digital knowledge and network society started in the 3rd age. The growth of internet technology encourages the evolution of online distance learning where many types of online distance learning exist, such as Wiki, MOOC, and various types of online quizzes (Kanwar, 2019; Rajesh, 2015).

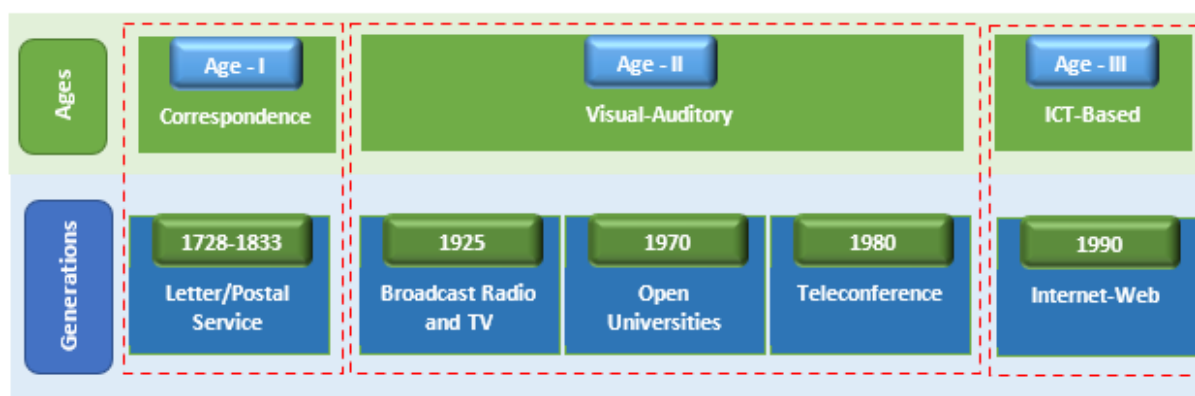


Fig. 1 Ages and Generation of Distance Learning (Bozkurt, 2019)

The Industrial Revolution influences the evolution of online distance learning (Kanwar, 2019). In the first industrial revolution, higher education transitioned from being elite to one which anyone could aspire to. Then, in the second industrial revolution, the world focuses on the assembly line and mass production. Indirectly it influences the trend in education where it drives many educational institutions to produce self-instructional booklets and offer correspondence courses. Online distance learning blooms in the third industrial revolution because of the rise of the computer and internet. Then, the fourth industrial revolution is marked by artificial intelligence and robotics development complementing computer and internet technologies. The combination of computer, internet, and artificial intelligence technologies causes the new online distance learning (Elayyan, 2021; Kanwar, 2019).

Besides many MOOC platforms that allow educational institutions to offer free online courses to thousands of students worldwide, artificial intelligence technology is a technology that influences the growth of online distance learning. Intelligent Tutoring Systems, for example, is one of the online distance education technologies that use artificial intelligence techniques to simulate one-to-one human tutoring and provide immediate feedback, all without the presence of the human. Furthermore, artificial intelligence also helps students and lecturers analysing and summarising the discussion in online courses that help human lecturers guide students in collaboration and problem-solving activities (Kanwar, 2019).

2.3 Previous Study on Online Distance Learning

Online distance learning is an alternative that many educational institutions utilise to deliver teaching and learning. The Covid-19 pandemic proves that online distance learning helps both academicians and students in teaching and learning (Mohtar & Yunus, 2022; Patricia Aguilera-Hermida, 2020; Taat & Francis, 2020) despite the movement restrictions. The enforcement by the top management of educational institutions, in the implementation of online distance learning, as a medium for teaching and learning delivery is one of the forces behind both academicians and students adjusting to these changes.

Previous studies show a few factors that affect students' acceptance of any particular teaching and learning technology. Many researchers agree that the students' attitudes are critical factors in accepting a new teaching and learning approach (Durnali et al., 2022; Panigrahi et al., 2018; Patricia Aguilera-Hermida, 2020). Having strong attitudes can drive students' positive behaviour towards the learning medium. With a strong attitude, students have the initiative to identify and use their learning needs, goals, strategies, and resources (Durnali et al., 2022).

In addition, a positive attitude also influences students to be innovative and highly motivated to explore new technologies in the teaching and learning process (Allam et al., 2020). It influences them to be very independent and disciplined in managing their study. Nonetheless, it needs the academicians to give clear directions to ensure the students are still learning and not fall behind during their self-learning sessions.

The effort from academicians to provide complete materials such as notes, tutorials, and solutions will influence students to accept the use of the online distance learning approach (Salloum et al., 2019). The complete content, easy to understand and attractive, can increase acceptance among the students towards the teaching and learning approach. Although the online learning platform is very sophisticated, if the content of materials is poor, then it will decrease the students' acceptance of online distance learning. As a result, academicians need to adapt to new technology in teaching and learning and acquire the skills to deliver efficient content materials (Mokhtar et al., 2020).

3.0 RESEARCH METHODOLOGY

This study uses a combination of cross-sectional and quantitative research designs to evaluate the validity and reliability of the new instruments for measuring students' acceptance of online distance learning. A close-ended questionnaire was designed with 35 items distributed to 250 respondents in this pilot testing stage to determine the variable's structure that exists in these 35 items. A technique of Exploratory Factor Analysis (EFA) was performed by using the Principal Component (PC) algorithm extraction method with the Varimax rotation technique since these techniques can be used as a tool for validity and refinement of items groups used in this study (Creswell, 2014; Hair et al., 2010).

As for ensuring the covariance matrix among the items is sufficient, and not an identity matrix, the Kaiser-Meyer-Olkin (KMO) index should be greater than .60 (Field, 2009) while the Bartlett's Test of Sphericity should be significant (Pallant, 2020), hence the EFA analysis can proceed. Thompson and Daniel (1996) suggested using a multiple-criteria approach for determining the number of factors or variables that should be extracted. In this analysis, only factors with an eigenvalue greater than the Monte-Carlo simulation eigenvalue are taken to be extracted (Hair et al., 2010; Tabachnick & Fidell, 2019). Besides that, the percentage of the variance explained should be more than 60.0% and can be used for determining the numbers factor or variable should be extracted (Hair et al., 2010; Thompson & Daniel, 1996).

In terms of validity of the items, factor loading, and communalities values should be more than 0.50. This value can be considered as the practical value for determining the significant

contribution of items towards their respective variable or factor (Hair et al., 2010) since the sample size can be considered as relatively medium large ($n = 250$). Lastly, an internal test of consistency items grouped from the EFA will be analyzed by using Cronbach's Alpha reliability test. Nunnally (1994) suggested that the cut-off of 0.70 and above can be used to indicate the grouped items are reliable.

To further assess the validity of the extracted factors from the EFA analysis, discriminant and nomological validity was performed. Nomological validity is a logical and relevant relationship that exists among the variables that follow the expected relationship direction, which is either it is a positive or negative relationship (Ong & Mahmud, 2020). In this nomological validity process, correlation analysis was used since this analysis permits the researchers to measure the direction of the relationship among the extracted variables (Creswell, 2014; Field, 2009; Ong & Mahmud, 2020). On the other hand, discriminant validity is about testing the degree to which the measures of different variables are distinct (Hair et al., 2010). Hence, from the correlation analysis, this discriminant validity can be accessed by measuring the strength of the relationship. According to Ong and Mahmud (2020) and Hair et al. (2010), discriminant validity exists when the correlation coefficient is less than .70, which is below moderate strength.

4.0 ANALYSIS

4.1 Validity and Reliability Analysis via Exploratory Factor Analysis and Cronbach's Alpha Analysis

We prepared 35 items in this instrument. The items are stated in Table 1. All items have been tested for validity and reliability analysis. This process is done via Exploratory Factor Analysis and Cronbach's Alpha Analysis.

Table 1. List of Items

Code	Item
Q1	I find ODL useful for my studies.
Q2	The ODL enables me to understand the subject contents more quickly.
Q3	The ODL improves my collaboration with my classmates.
Q4	The ODL increases my learning productivity.
Q5	The ODL improves my performance in my studies.
Q6	The notes and examples uploaded on the ODL platforms such as MS Teams and YouTube helped me a lot in improving my studies performance.
Q7	The notes and examples that were uploaded on the ODL platform helped me a lot in understanding my studies.
Q8	The solution of tutorials that were uploaded on the ODL platform helped me a lot in understanding my studies.
Q9	Clear directions and answers that are delivered by my lecturers through the ODL platforms help me to produce quality assignments and outputs.
Q10	The ODL platforms help me to interact with my classmates and lecturers to improve my understanding of my studies.
Q11	I find ODL flexible.
Q12	I find ODL easy to use.
Q13	ODL does not require much effort.
Q14	ODL does not require much time to get used to.
Q15	My interaction in the ODL environment is clear and understandable
Q16	It is easy for me to become skillful in learning in an ODL environment.
Q17	I believe ODL is beneficial if it is recommended to me by my lecturers.
Q18	I believe ODL is beneficial if my lecturers support it.
Q19	I believe ODL is beneficial if my lecturers help me through it.

Code	Item
Q20	I believe ODL is beneficial if the university makes it compulsory.
Q21	I believe ODL is beneficial if the university supports it.
Q22	I believe ODL is beneficial if the university prepares me for it
Q23	I like to experiment with new information technologies
Q24	When I hear about a new information technology, I look forward to examining it.
Q25	Among my colleagues, I am usually the first to try out a technology innovation.
Q26	When it comes to learning and studying, I am a self-directed person.
Q27	In my studies, I am self-disciplined and find it easy to set aside reading and homework time.
Q28	I can manage my study time effectively and easily complete assignments on time.
Q29	In my studies, I set goals and have a high degree of initiative.
Q30	I plan to use ODL to support face-to-face learning.
Q31	If I had a choice, I would prefer ODL over face-to-face learning.
Q32	I predict that I will use the ODL platforms frequently.
Q33	I intend to increase the usage of ODL platforms in the future.
Q34	I will enjoy using the ODL platforms.
Q35	I would recommend others to use the ODL platform as a learning support.

To determine the sufficient number of variables to be extracted, Table 2 shows the summary result of the initial eigenvalue, Monte-Carlo simulation eigenvalues, and cumulative percentage of variance extracted from the EFA analysis. The analysis indicated that seven variables are sufficient enough to be extracted out of the 32 items because the first seven of the initial eigenvalues (18.866, 2.139, 1.440, 1.340, 1.183, 1.056, and 0.987) are greater than the first seven of the Monte-Carlo simulation eigenvalues. Besides that, these seven extracted variables also exceeded 60% of the cumulative percentage of variance explained (Cumulative percentage of variance explained: 83.13%). Therefore, based on this result, from the 32 items, seven variables' items should be extracted.

Table 2. The Summary Result of Multiple Criteria for Group Variables to be Extracted

Component Number	Initial Eigenvalue	Monte-Carlo Simulation Eigenvalue	Cumulative % Variance Explained	Decision
1	18.866	2.158	16.59	Sufficient to extract
2	2.139	1.698	30.80	Sufficient to extract
3	1.440	1.296	44.13	Sufficient to extract
4	1.340	1.204	56.91	Sufficient to extract
5	1.183	1.098	69.27	Sufficient to extract
6	1.056	0.946	76.36	Sufficient to extract
7	0.987	0.836	83.13	Sufficient to extract
8	0.588	0.674	-	Insufficient to extract

Note: Only the first 8 out of 32 components are reported

Table 3 shows the summary result of the EFA analysis for these 32 items using the combination of the Principal Component (PC) extraction technique with the Varimax rotation technique. The KMO index for this analysis was 0.958 with the highly significant result of Bartlett's Test of Sphericity of these data sets ($X^2(496) = 9202.92$, $p < 0.01$). Hence, the data covariance for these 32 items can be considered not an identity matrix and allow the next procedure of the EFA analysis.

The result of the EFA analysis (Table 3) also indicates that all items exceeded the minimum threshold value of 0.50 for both values of factor loading and commonalities. However, to reach this conclusion, three items which are Q1, Q10, and Q17 were removed

one by one during the analysis process. This is because these three items produce a low value of factor loading (less than 0.50) and share the approximately same factor loading values across the extracted components.

Table 3. The Summary Results of EFA and Cronbach's Alpha Analysis

Items	Extracted Variables							COM
	1	2	3	4	5	6	7	
Q2	0.356	0.406	0.193	0.280	0.273	0.154	0.516	0.772
Q3	0.185	0.172	0.320	0.180	0.159	0.149	0.753	0.813
Q4	0.437	0.393	0.249	0.298	0.276	0.077	0.511	0.839
Q5	0.443	0.339	0.194	0.277	0.282	0.101	0.584	0.856
Q6	0.237	0.205	0.279	0.750	0.292	0.111	0.131	0.852
Q7	0.226	0.248	0.238	0.811	0.273	0.077	0.118	0.921
Q8	0.201	0.173	0.168	0.843	0.144	0.190	0.187	0.900
Q9	0.086	0.109	0.213	0.771	0.193	0.281	0.128	0.792
Q11	0.302	0.526	0.313	0.269	0.230	0.207	0.171	0.663
Q12	0.381	0.632	0.201	0.267	0.265	0.252	0.113	0.803
Q13	0.259	0.834	0.138	0.064	0.077	0.119	0.109	0.817
Q14	0.258	0.819	0.149	0.139	0.145	0.123	0.110	0.828
Q15	0.289	0.676	0.258	0.294	0.219	0.202	0.241	0.841
Q16	0.366	0.613	0.267	0.263	0.241	0.156	0.277	0.809
Q18	0.278	0.182	0.739	0.313	0.282	0.137	0.169	0.881
Q19	0.123	0.161	0.730	0.334	0.265	0.267	0.101	0.837
Q20	0.398	0.246	0.638	0.131	0.258	0.035	0.229	0.764
Q21	0.296	0.196	0.803	0.194	0.219	0.097	0.209	0.910
Q22	0.231	0.239	0.783	0.189	0.164	0.235	0.145	0.862
Q23	0.286	0.267	0.256	0.351	0.194	0.706	0.100	0.888
Q24	0.281	0.270	0.217	0.349	0.222	0.727	0.080	0.906
Q25	0.246	0.250	0.242	0.142	0.368	0.619	0.234	0.775
Q26	0.242	0.140	0.265	0.236	0.683	0.262	0.151	0.762
Q27	0.221	0.211	0.178	0.197	0.827	0.145	0.198	0.909
Q28	0.226	0.247	0.246	0.265	0.781	0.106	0.075	0.869
Q29	0.140	0.104	0.212	0.189	0.839	0.131	0.119	0.845
Q30	0.563	0.334	0.292	0.171	0.295	0.226	0.036	0.682
Q31	0.806	0.310	0.110	0.085	0.135	0.096	0.189	0.829
Q32	0.685	0.317	0.340	0.204	0.142	0.160	0.080	0.780
Q33	0.822	0.239	0.246	0.146	0.206	0.140	0.155	0.901
Q34	0.731	0.323	0.232	0.206	0.211	0.211	0.198	0.863
Q35	0.761	0.190	0.230	0.245	0.187	0.199	0.175	0.832
Eigenvalue	18.866	2.139	1.44	1.34	1.183	1.056	0.987	
Variance Explained (%)	16.59	14.21	13.33	12.79	12.36	7.09	6.76	
Cronbach's Alpha	0.912	0.942	0.936	0.947	0.909	0.935	0.948	

Note: KMO-Index = 0.958; Bartlett's Test of Sphericity, $X^2(496) = 9202.92$, $p < 0.01$; Q1, Q10, and Q17 items were removed during the analysis process due to low value of factor loading and share the

approximately same factor loading values across the extracted components; COM = Communalities value.

On the other hand, the result of cross-factor-loading reported in Table 3 indicates that all the extracted variable groups also meet the minimum requirement of discriminant validity from the aspect of the cross-factor-loading analysis since all the grouped items produce high-value load towards their extracted variables as compared to other extracted variables. Therefore, the extracted variables were named as Self-Productivity (Q2, Q3, Q4, and Q5), Content-Productivity (Q6, Q7, Q8, and Q9), Effort Expectancy (Q11, Q12, Q13, Q14, Q15, and Q16), External Influence (Q18, Q19, Q20, Q21, and Q22), Personal Innovativeness (Q23, Q24, and Q25), Self-Management Learning (Q26, Q27, Q28, and Q29), and Behavioural Intention (Q30, Q31, Q32, Q33, Q34, and Q35). In addition, these extracted variables can be considered as having an excellent level of reliability since all Cronbach's Alpha values were above 0.90 (Range: 0.909 to 0.948). Therefore, all the extracted variables with these 32 items can be considered valid and reliable to be used.

4.2 Discriminant and Nomological Validity via Correlation Analysis

Table 4 shows the results of correlation analysis to examine the nomological validity of the extracted variables. The analysis indicates that all the bivariate relationships among the extracted variables were significantly correlated for at least a 95% confidence level (all p-values <0.05). Besides that, the direction of the relationships among the extracted variables was exactly positive relationship as expected. Therefore, it can be concluded that the extracted variables have good nomological validity since all the bivariate relationships among the extracted variables exactly and significantly follow the expected direction of the theory.

Table 4. The Summary Result of Pearson's Correlation Analysis

	SP	CP	EE	EI	PI	SL	BI
SP	1.000						
CP	0.656**	1.000					
EE	0.673**	0.613**	1.000				
EI	0.612**	0.645**	0.670**	1.000			
PI	0.657**	0.671**	0.602**	0.671**	1.000		
SL	0.652**	0.617**	0.604**	0.653**	0.650**	1.000	
BI	0.660**	0.579**	0.661**	0.698**	0.686**	0.606**	1.000

Note: SP = Self-Productivity; CP = Content Productivity; EE = Effort Expectancy; EI = External Influence; PI = Personal Innovativeness; SL = Self-Management Learning; BI = Behavioural Intention; n = 250; **p <0.01.

On the other hand, the correlation analysis also reconfirms the finding of cross-factor-loading analysis about the discriminant validity, where all the correlation coefficients are less than 0.70. Hence, the extracted variables again can be considered sufficiently discriminate the variables since the strength of the relationship can be categorized below moderate strength.

5.0 CONCLUSIONS AND FUTURE WORKS

In this paper, we validate items that will be used in measuring students' acceptance of online distance learning. Based on the Exploratory Factor Analysis and Nomology Analysis, we found 32 items with seven dimensions are accepted to be used in measuring students' acceptance of online distance learning. These seven dimensions are Self-Productivity, Content Productivity, Effort Expectancy, External Influence, Personal Innovativeness, Self-Management Learning and Behavioural Intention.

In conclusion, items for measuring students' acceptance of online distance learning are validated by this study. This instrument will be useful, especially in measuring students' acceptance of online distance learning, and various research can benefit from this study. As an example, a good instrument will help in comparing different online distance learning approaches and to determine what are the factors affecting students' acceptance of online distance learning.

However, to further prove the validity of the instrument, we propose a confirmatory analysis using a different set of samples to confirm the validity from the aspects of maximum likelihood estimator techniques.

As a result, this study will be one of the sources to help academicians in determining and planning the best way to deliver teaching and learning in online distance learning mode.

REFERENCES

- Allam, S. N. S., Hassan, M. S., Mohideen, R. S., Ramlan, A. F., Mohd, R., & Kamal. (2020). Online distance learning readiness during covid-19 outbreak among undergraduate students. *International Journal of Academic Research in Business and Social Sciences*, 10(5), 642–657.
- Bozkurt, A. (2019). From distance education to open and distance learning: a holistic evaluation of history, definitions, and theories. In S. Sisman-Ugur & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 252–273). <https://doi.org/0.4018/978-1-5225-8431-5.ch016>
- Creswell, J. W. (2014). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Pearson New International Edition.
- Durnali, M., Oraksi, Ş., & Toraman, Ç. (2022). Distance education students' acceptance of online learning systems, attitudes towards online learning and their self-directed learning skills. *Malaysian Online Journal of Educational Technology*, 10(2), 1–19. <https://doi.org/http://dx.doi.org/10.52380/mojet.2022.10.2.236>
- Elayyan, S. (2021). The future of education according to the fourth industrial revolution. *Journal of Educational Technology and Online Learning*, 4(1), 23–30. <https://doi.org/http://doi.org/10.31681/jetol.737193>
- Field, A. (2009). *Discovering statistics using SPSS*. <https://books.google.com.my/books?id=4mEOw7xa3z8C>
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis: A global perspective*.
- Haningsih, S., & Rohmi, P. (2022). The pattern of hybrid learning to maintain learning effectiveness at the higher education level Post-COVID-19 Pandemic. *European Journal of Educational Research*, 11(1), 243–257. <https://doi.org/10.12973/eu-jer.11.1.243>
- Huang, R. H., Liu, D. J., Tlili, A., Yang, J. F., Wang, H. H., & others. (2020). Handbook on facilitating flexible learning during educational disruption: The Chinese experience in maintaining uninterrupted learning in COVID-19 outbreak. *Beijing: Smart Learning Institute*

of Beijing Normal University, 46.

- Ikhsan, R. B., Saraswati, L. A., Muchardie, B. G., Vional, & Susilo, A. (2019). The determinants of students' perceived learning outcomes and satisfaction in BINUS online learning. *International Conference on New Media Studies (CONMEDIA)*, 68–73. <https://doi.org/10.1109/CONMEDIA46929.2019.8981813>
- Kanwar, A. (2019). Open distance and elearning in the 4th industrial revolution. *Open and Distance Learning Conference*.
- Mohtar, M., & Yunus, M. M. (2022). A systematic review of online learning during COVID-19: Students' motivation, task engagement and acceptance. *Arab World English Journal (AWEJ)*, 2(2nd special), 202–215. <https://doi.org/https://dx.doi.org/10.24093/awej/covid2.13>
- Mokhtar, R., Jaafar, N. H., Ong, M. H. A., Ismail, Z., & Rahman, M. A. (2020). Validity Assessment of technology readiness index using exploratory factor analysis and nomology analysis: Perspective from academicians for education 4.0 tools. *Journal of Critical Reviews*, 7(16), 803–810.
- Nunnally, J. C. (1994). *Psychometric Theory* 3E. https://books.google.com.my/books?id=%5C_6R%5C_f3G58JsC
- Ong, M. H. A., & Mahmud, Z. (2020). An exploratory factor analysis of market survey instruments for automobile industry: A study on Malaysian motor vehicle industry. *Thailand Statistician*, 18(4), 481–490.
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Taylor & Francis.
- Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management*, 43, 1–14. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.05.005>
- Patricia Aguilera-Hermida, A. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*, 1, 100011. <https://doi.org/https://doi.org/10.1016/j.ijedro.2020.100011>
- Pinchbeck, J., & Heaney, C. (2022). The impact of Online Forum Use on Student Retention in a Level 1 Distance Learning Module. *Athens Journal of Education*, 9(1), 103–118.
- Qiao, P., Zhu, X., Guo, Y., Sun, Y., & Qin, C. (2021). The Development and adoption of online learning in pre- and post-COVID-19: Combination of technological system evolution theory and unified theory of acceptance and use of technology. *Journal of Risk and Financial Management*, 14(4). <https://doi.org/10.3390/jrfm14040162>
- Rahim, E. E. A., Daud, N., Kadir, S. A. A., & Jamil, N. W. (2020). Students' perceptions of Open and Distance Learning (ODL) for theoretical and lab-related subjects. *2020 IEEE Conference on E-Learning, e-Management and e-Services (IC3e)*, 29–32. <https://doi.org/10.1109/IC3e50159.2020.9288438>
- Rajesh, M. (2015). Revolution in Communication technologies: impact on distance education. *Turkish Online Journal of Distance Education-TOJDE*, 16(1), 62–88. <https://doi.org/https://doi.org/10.17718/tojde.26353>
- Salloum, S. A., Qasim Mohammad Alhamad, A., Al-Emran, M., Abdel Monem, A., & Shaalan, K. (2019). Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model. *IEEE Access*, 7, 128445–128462. <https://doi.org/10.1109/ACCESS.2019.2939467>
- Stevanović, A., Božić, R., & Radović, S. (2021). Higher education students' experiences and opinion about distance learning during the Covid-19 pandemic. *Journal of Computer Assisted Learning*, 37(6), 1682–1693. <https://doi.org/https://doi.org/10.1111/jcal.12613>

- Taat, M. S., & Francis, A. (2020). Factors Influencing the students' acceptance of e-learning at teacher education institute: An exploratory study in Malaysia. *International Journal of Higher Education*, 9(1), 133–141. <https://doi.org/https://doi.org/10.5430/ijhe.v9n1p133>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using Multivariate Statistics* (7th ed.). Pearson Education, Inc.
- Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*, 56(2), 197–208. <https://doi.org/10.1177/0013164496056002001>
- Traxler, J. (2018). Distance learning—predictions and possibilities. *Education Sciences*, 8(1). <https://doi.org/10.3390/educsci8010035>

EXPLORING EFFECTIVE LEARNING STRATEGIES IN ARABIC LANGUAGE THROUGH THE ARCS MODEL

Asma' Binti Ammar¹, Nur Hakimah Md Sallehuddin^{2*}, Fariz Azzuan Amat Suparia³, Muhammad Syaffiq Bin Mohammed Raffi⁴

^{1,3,4} Academy of Language Studies, Universiti Teknologi MARA,
UiTM Shah Alam Campus, 40450 Shah Alam, Selangor, Malaysia

²Academy of Language Studies, Universiti Teknologi MARA,
UiTM Cawangan Negeri Sembilan Seremban Campus,
Persiaran Seremban Tiga 1, Seremban 3, 70300 Seremban, Negeri Sembilan

*Corresponding Author

Email : ¹asma_ammam@uitm.edu.my, ²hakimah87@uitm.edu.my, ³farizazzuan@uitm.edu.my,
⁴syaffiqraffi@uitm.edu.my

Received: 29th November 2023

Accepted: 28th February 2024

ABSTRACT

Learning a foreign language is challenging for non-native speakers. Thus, choosing the best Language Learning Strategies (LLS) is important in learning a foreign language, especially for the Arabic language. The LLS used will be able to help the students to motivate and enhance the language learning to the optimal level. This study aims to investigate the outcome of the Attention, Relevance, Confidence, and Satisfaction Model (ARCS Model) in Arabic language student's learning strategies. A quantitative survey consisting of 41 questions was divided into four sections: demographic profile, attention and relevance, confidence, and satisfaction. The survey was distributed to 182 respondents who took Arabic as a third language in a public university. The data was analysed using SPSS Frequency Statistics. The findings of this study showed there are connections between all three ARCS items. Regular attendance to class and help-seeking in satisfaction components of the ARCS Model indicate the highest mean score. To gain attention and relevance, the majority of students use to find key ideas and connect them to prior knowledge as LLS. In addition, students prefer to reread the materials to develop confidence in learning Arabic. This study helps educators deepen their understanding of the best LLS in teaching and learning Arabic based on the most preferable strategies chosen by the students.

Keywords: Arabic Language, ARCS Model, Learning Strategies, Motivations.

1.0 INTRODUCTION

1.1 Background of Study

As the world becomes more interconnected and international relationships grow, there is a pressing demand for learning foreign languages. This increasing global integration highlights the urgent need to acquire languages from different cultures. Arabic, being one of the world's oldest and most diverse languages, holds a significant position in linguistic studies. Understanding the strategies employed by language students is essential for improving teaching methods and curriculum development. This study delves into the varied landscape of learning strategies in Arabic language education, investigating different techniques, cognitive processes, and socio-cultural factors that influence Arabic acquisition. The aim is to

shed light on effective teaching methods, thereby enriching the overall discourse on language education.

According to Oxford (1990), language learning strategies are specified actions or techniques that students use to assist their progress in developing second or foreign language skills. It refers to specific actions or techniques that students use to help themselves improve their skills in learning, serving as methods and approaches crucial for mastering the new language. Learning strategies are deliberate behaviours and thoughts that students use to aid in their comprehension, acquisition, and retention of new information (Richards & Platt, 1992). These strategies are the conscious efforts made by students to enhance their comprehension and memory, essential for effective language learning.

Brown, (2001) defined language learning strategies as techniques a student utilizes to achieve learning success. Including strategies like metacognitive planning, mental manipulation of language input, and social or emotional interaction, these methods are intricately integrated into the student's path to mastering language skills. These definitions collectively emphasise that language learning strategies are intentional actions and techniques employed by students to enhance their language skills. By being aware of and applying these strategies, students can optimize their language learning experiences and achieve their learning goals effectively.

The ARCS model, developed by John Keller in 1987, is an instructional design framework that emphasises motivation in the learning process. Keller (1987) comprises four crucial elements in the model: namely Attention, Relevance, Confidence, and Satisfaction, highlighting the key factors essential for engaging and effective learning experiences (Keller, 1987). This framework has gained prominence in educational settings, guiding educators to capture students' attention, demonstrate the relevance of the content, build their confidence, and ensure their satisfaction, thus enhancing overall learning outcomes. Furthermore, this ARCS model can be applied to learning foreign languages to create a motivating and engaging learning environment. By investigating students' strategies within the framework of ARCS, this research aims to provide valuable insights into optimising Arabic language education for students in multicultural contexts.

Applying the ARCS Model to Learning Arabic as a Foreign Language must involve integrating all four elements. The first element is Attention. In the context of learning Arabic, gaining attention could involve using visually appealing Arabic script, engaging multimedia resources, or intriguing cultural aspects of Arabic-speaking countries. Creating a visually stimulating and interactive learning environment can capture students' attention. The second element is Relevance. Making Arabic relevant to students can involve demonstrating its importance in global communication, business, culture, and diplomacy. Emphasising the practical applications of Arabic, such as travel, business opportunities, or understanding the rich Arabic literature, can enhance its relevance for students. The third element is Confidence, which involves boosting students' confidence in learning Arabic. This can be achieved by breaking down the language into manageable chunks, providing regular feedback, and creating a supportive learning community. Encouraging students to practice speaking, listening, reading, and writing Arabic in a safe environment can enhance their confidence. The final element in this model is Satisfaction. Ensuring satisfaction in learning Arabic could involve celebrating milestones, acknowledging students' progress, and addressing any challenges they face. Providing opportunities for cultural immersion, language exchange programs, and real-life language usage can enhance students' satisfaction with the learning experience.

In the Malaysian context, the relevance of exploring students' strategies in learning Arabic as a foreign language is particularly significant due to Malaysia's diverse cultural landscape. With a substantial population of Malay speakers, the study of Arabic as a foreign language is crucial for cultural understanding, economic collaboration, and diplomatic relations, especially

within the context of Islamic studies. Additionally, Malaysia's vibrant tourism industry, which attracts a considerable number of Arabic-speaking tourists, highlights the practical importance of mastering the Arabic language for professionals in hospitality, tourism, and related sectors.

1.2 Statement of Problem

Foreign language has received more attention, and the number of language students has fluctuated over time. Many students from various nations are eager to acquire a new language and enroll in programs to improve their chosen language. A student learning a foreign language must select effective and efficient learning strategies to master the language's four main skills: listening, reading, speaking, and writing. It is the responsibility of the instructor to ensure the implementation of effective learning strategies in the classroom to retain students' interest in learning.

Motivation is a crucial aspect of learning a foreign language. It has a substantial effect on the teaching and learning of the language, and to a certain extent, it can determine the success or failure of second language acquisition (Zhang, 2015). Students lose interest in language study when traditional strategies of teaching and learning are employed, resulting in a small number of students achieving proficiency in foreign languages (Chang & Lehman, 2019).

Students must participate in learning activities that stimulate creativity and equip them learners with the opportunity to realise their full potential by implementing learning strategies that address this desire. In contrast, many teachers of foreign languages do not consider motivating strategy, despite its importance in language development (Fauzi & Anindiati, 2021). There are a few techniques that incorporate motivation as an element and studies that analyse the relationship between learning strategies and the motivation of students (El-Adl & Alkharusi, 2020; Theobald, 2021).

As a result, the purpose of this research is to investigate the learning strategies of students using the ARCS model and to determine whether there is a correlation between the ARCS model and the student's level of motivation.

1.3 Objective of The Study and Research Questions

This study is done to explore the perception of Arabic students on their use of learning strategies in learning the Arabic language as a third language. Specifically, this study is done to answer the following questions;

1. How do students perceive attention and relevance in learning Arabic?
2. How do students gain confidence in learning Arabic?
3. How do students perceive satisfaction in learning Arabic?
4. Is there a relationship between all motivational aspects of learning Arabic strategies?

2.0 LITERATURE REVIEW

2.1 Learning Strategies

Learning strategies are special methods for solving a problem or a task, designing a desired outcome, and manipulating and controlling information obtained in the interest of learning (Wegner et al., 2013). The present body of research is primarily concerned with the study of self-regulated learning, which may be classified into three primary categories: cognitive strategies, metacognitive strategies, and resource-management strategies (Biwer, et al., 2021).

Three main categories of learning strategies can be differentiated in self-regulated learning: cognitive, metacognitive, and resource-management strategies (Duncan &

McKeachie, 2005; Panadero, 2017). Cognitive strategies encompass a variety of techniques and methods utilised to enhance the processing and retention of information proficiently and successfully (Yang et al., 2021). By employing cognitive strategies, individuals enhance their ability to process and internalise information, contributing to more effective learning outcomes. Conversely, the concept of metacognition pertains to individuals' ability to possess an awareness of their cognitive processes, actively monitor these processes as they unfold, exert control over them, and make appropriate modifications to optimise the learning process (Mitsea & Drigas, 2019). Metacognitive strategies enable learners to take a more active role in their learning journey by fostering self-awareness and adaptability. When individuals strategically plan their learning, assess their comprehension, and reflect on their performance, they develop a heightened sense of metacognition, leading to improved learning efficiency. In addition, resource-management strategies focus on the efficient allocation and utilisation of resources to support learning endeavours. Learners employing resource-management strategies optimise their study environment, prioritise tasks, and effectively utilise available materials.

Biwer et al. (2021) and Yusri et al. (2011) have identified four key components that comprise resource management strategies, namely time and study management, effort regulation, peer learning, and aid seeking. On the whole, efficient resource management contributes to a structured and productive learning process, ultimately enhancing overall learning outcomes.

In essence, these three categories collectively form a comprehensive framework for self-regulated learning, empowering individuals to take control of their learning experiences through a thoughtful application of cognitive, metacognitive, and resource-management strategies.

Extensive academic investigation into the processes of language acquisition has led to the discovery and categorization of several techniques. (Seng et al., 2023). The study reveals that there is a strong relationship between direct strategies (which consist of rehearsal, organisation, elaboration, and critical thinking strategies); and indirect strategies (metacognitive self-regulation and resource management strategies) in foreign language learning. On the contrary, the study conducted by Budiarti (2022), shows that the participants used metacognitive strategies more frequently than cognitive strategies.

2.2 ARCS Motivation

Motivation can be defined as the accumulated arousal or desire of the learner, with observable effects on their learning behaviour (Dornyei, 2013). There is a substantial association between motivation and the success or failure of foreign language classes. Motivation is considered one of the most influential elements in student achievement (Kurt & Kecik, 2017). Teachers are urged to foster an environment that emphasises language learning motivation among students (Istiqomah, 2021).

Keller and Kopp established the ARCS model in 1987, which can improve achievement motivation and learning outcomes. This model is based on the expectancy-value theory, which has two components: the value of the objective to be attained and the likelihood of success in achieving that goal. In theory, the ARCS paradigm has four components: attention, relevance, confidence, and satisfaction.

Attention: This component was utilised to engage students by gaining their attention, which ranged from simple unexpected events such as a loud whistle to mentally stimulating challenges that sparked their interest on a deeper level (Lubis, 2023).

Relevance: Students must be certain that the instruction is relevant to their major personal needs, motivations, or objectives, as well as the context, to feel motivated to continue learning (Chang & Lehman, 2019).

Confidence: Teachers should assist students in developing a positive expectation for success by establishing clear objectives and presenting examples of accomplishments to readily instill confidence in students (Lubis, 2023).

Satisfaction: Students are encouraged to feel good about their achievements and educational experiences. They should get acknowledgment and evidence of success that reinforces their innate emotions of contentment, and they should believe they have been treated properly (Keller, 2010)

According to Khalil and Elkhider (2016), the ARCS learning motivational model is designed to give the sequence of operations to increase students' learning motivation, hence developing students' belief that they have sufficient capacity to complete learning tasks (Hariyanto et al., 2019).

2.3 Past Studies on the Use of Learning Strategies and ARCS Motivation Framework

Numerous studies have studied ARCS motivation structure and learning approaches. Javed et al. (2019) studied Keller's four ARCS motivation framework aspects and undergraduate English as a Second Language (ESL) motivation. This quantitative study surveyed 300 undergraduates at four universities—two public and two private. Keller (1987), Loorbach et al. (2015), Instructional Materials Motivation Survey (IMMS), and Wimolmas (2013) influenced the questionnaire. Items were graded on a 5-point Likert scale and SPSS 23 was used to analyse data. Analysis of demographic/background data used descriptive statistics. Regression and Pearson correlation were used to assess research variables. College students are motivated to learn English as a second language by focus, relevance, confidence, and satisfaction.

Gonen and Akbarov (2016) examined language students' motivation after blended learning using the ARCS Model. This study employed Schoology, a Facebook-like Learning Management System, for all four English skills, and 60 Zirve University, Turkey, English as a Foreign Language (EFL) students contributed the data. Blended Learning engages students in four ARCS Model constructs (Attention, Relevance, Confidence, and Satisfaction) (Keller, 2010) to improve their English language skills. Most students were motivated to acquire a language by social reward and intrinsic delight and happiness. The satisfaction subscale averaged the highest. A comparable study by Wan Daud et al. (2020) revealed the highest satisfaction means. The study evaluated how mobile learning affects Arabic language learning motivation. Mobile Arabic learning interest is examined in the study. The ARCS model explained how mobile app education encouraged responders. Mobile learning was used by 273 Malaysian university students to learn Arabic and then they completed the motivation questionnaire. Student desire to study Arabic through mobile apps was highly affected by attention, relevance, contentment, and confidence, with satisfaction having the highest mean score. This study adds to the empirical evidence of ARCS model integration in Arabic language learning mobile apps.

Some research objectively assessed how language acquisition influences student motivation and performance. Chang et al. (2016) used motivational theory to study how Mobile Inquiry-Based Learning (M-IBL) affects student motivation and achievement. It investigates the M-IBL motivational design's learning effectiveness in formal EFL/L2 education to fill a research need. Two lessons studied for six weeks. M-IBL was performed by 35 experimental students with attention, relevance, confidence, and satisfaction motivation. In contrast, 32

control students received M-IBL without motivation strategies (MSs). Despite equal learning outcomes, M-IBL pupils with motivational enhancement were far more motivated than those without MSs. M-IBL with embedded ARCS MSs increased ARCS relevance, confidence, and satisfaction but not attention. Motivationally enhanced M-IBL methodologies are recommended for language acquisition training.

Alcasoda and Balaoro (2022) examined how Gamified Instructional Materials (GIM) can enhance academic performance and intrinsic motivation in students. This quasi-experimental study evaluates GIM using the class intervention and the reduced and modified Instructional Materials Motivation Survey (IMMS) with Attention, Relevance, Confidence, and Satisfaction (ARCS) Model indicators. ARCS Model integration through IMMS had a mean score of ($M=3.42$). This implies that GIM can be an innovative learning tool to engage and motivate students. The Paired Samples T-Test showed that the control-experimental group scored ($M=1.20$, $SD=1.12$, $p=0.000$) during the pre-test and ($M=1.0$, $SD=1.32$, $p=0.000$) during the post-test, indicating a statistical difference. The Pearson Correlation showed a weak positive correlation ($r=0.14$, $p=0.56$) between intrinsic motivation and student academic performance. This study proved that GIM is an innovative face-to-face teaching strategy that can boost performance and intrinsic motivation. 37 Horacio Dela Costa High School students.

Research by Fauzi and Anindiati (2021) intended to enhance student motivation and speaking abilities in Arabic language learning using a learning management system. Two cycles (five times) were used for this classroom action research. The topics were 39 C and D Class Kalam Ibtida'i Course students at the Department of Arabic, Faculty of Letters, Universitas Negeri Malang, Indonesia, in 2021–2022. The performance grading rubric of the relevance component of the ARCS Model provided motivation data, while students' worksheet evaluations and end-of-cycle Arabic speaking exam provided results data. The learning management system improved students' Arabic language learning motivation and speaking skills. Because beginner Arabic speakers require incentives, this Kalam Ibtida'i course uses the ARCS paradigm.

Most studies (Chang et al. 2016; Gonen and Akbarov, 2016; Wan Daud et al., 2020; Alcasoda and Balaoro, 2022) examine how learning strategies affect ARCS Model-based student motivation and academic achievement. The results show that those learning tactics boost student motivation and performance. According to Gonen and Akbarov (2016) and Wan Daud et al. (2020), the ARCS model's Satisfaction element has the greatest mean compared to attention, relevance, and confidence. Javed et al. (2019) found a positive correlation between all four ARCS model factors and students' willingness to learn, while Chang et al. (2016) found that M-IBL students with motivational enhancement had significantly higher learning motivation than those without MSs in ARCS relevance, confidence, and satisfaction but no significant difference in Attention.

2.4 Conceptual Framework

To achieve optimal learning outcomes and success, especially in learning a foreign language, students have to initiate and maintain their motivation throughout the learning process. This motivation pushes the students to be satisfied with the learning task (Rahmat et al., 2021). Motivated students display confidence and good learning outcomes in learning. Fig. 1. shows the conceptual framework of the study. This study is based on the theoretical concepts of the ARCS (Attention and Relevance, Confidence, and Satisfaction) model of motivation by Keller (1987). The concepts by Keller (1987) are scaffolded onto Wenden and Rubin's (1987) learning strategies to depict how the use of learning strategies is related to motivation. Wenden and Rubin's (1987) strategies are cognitive components, metacognitive self-regulation, and resource management.

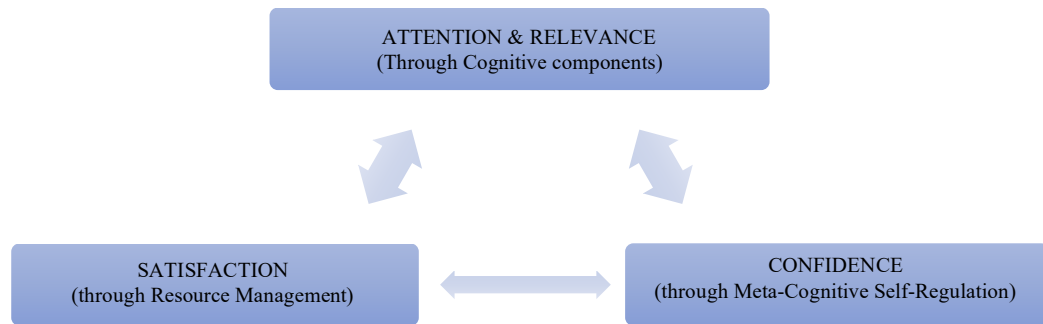


Fig. 1. Conceptual Framework of the Study- Learning Strategies through ARCS Model

Fang et al. (2023) stated that there are 14 studies indicating the advantages and benefits of the ARCS model in enhancing and improving students' academic performance and achievement. The ARCS Model has been used for various functions in past theoretical frameworks. As mentioned by Fang et al. (2023), the ARCS model is used in the analysis of students' motivations, instructional design, and the relation between the ARCS model and behaviourism and humanism theory. For this study, the ARCS Model focuses on students' learning strategies in learning Arabic as a third language.

3.0 METHODOLOGY

A purposive sample of 182 respondents responded to the survey. The instrument used is a 5 Likert-scale survey using the guidelines provided by (Alston & Miller, 2002). The items in the survey are rooted in Keller (1987) as well as Wenden and Rubin (1987) to reveal the variables in Table 1 below. The survey has 4 sections. Section A has items on the demographic profile. Section B has 19 items on Attention and Relevance. Section C has 11 items on Confidence and section D has 11 items on Satisfaction.

Table 1. Distribution of Items in the Survey

	Keller's ARCS Model (Keller, 1987)	Wenden and Rubin (1987)		No. of Items	Total
A	ATTENTION AND RELEVANCE	COGNITIVE COMPONENTS	(a) Rehearsal	4	19
			(b) Organization	4	
			(c) Elaboration	6	
			(d) Critical Thinking	5	
B	CONFIDENCE	METACOGNITIVE SELF-REGULATION			11
C	SATISFACTION	RESOURCE MANAGEMENT	(a) Environment Management	5	11
			(b) Effort Management	4	
			(c) Help-Seeking	2	
					41

The data collected from the survey were analysed using SPSS frequency statistics. To obtain the mean scores, a descriptive analysis was conducted of the items in the survey. Further analysis using SPSS is done to present findings and correlations between ARCS items and answer the research questions for this study.

Table 2. Reliability of Survey	
Reliability Statistics	
Cronbach's Alpha	N of Items
.965	41

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .965, thus, revealing a good reliability of the instrument used which is in the range of very reliable (0.80 to 1.0).

4.0 FINDINGS

4.1 Findings for Demographic Profile

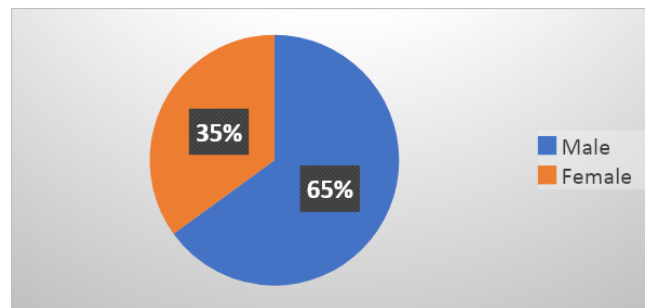


Fig. 2. Percentage for Gender

Fig. 2 represents the gender distribution of the study's respondents. The majority (65%) were male, while 35% were female.

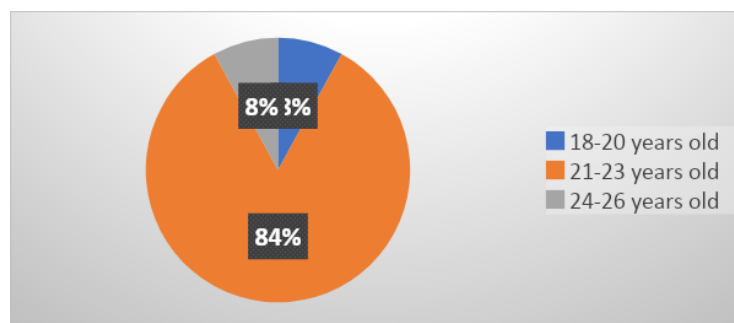


Fig. 3. Percentage for Age

Fig. 3 illustrates the age distribution of the respondents, with the majority (84%) falling within the 21 to 23 years age group. 8% of the respondents were aged 18 to 20, and another 8% were aged 24 to 26 years old.

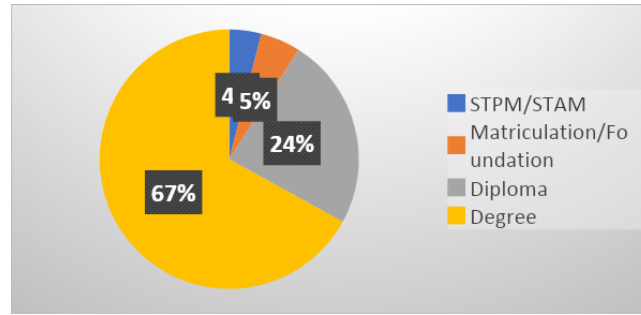


Fig. 4. Percentage for Highest Academic level

In terms of the highest academic level attained by the respondents, 69% have a degree, followed by 24% with a diploma, 5% from Matriculation or Foundation programs, and 4% holding Sijil Tinggi Persekolahan Malaysia (STPM) and Sijil Tinggi Agama Malaysia (STAM) certificates. Despite their varied academic backgrounds, most students are currently pursuing undergraduate courses. There might be some misunderstanding regarding their previous academic achievements.

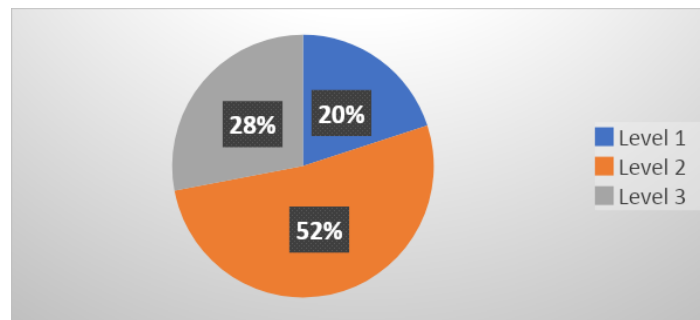


Fig. 5. Percentage for Course-Introductory Arabic

Fig. 5 illustrates the distribution of respondents enrolled in Introductory Arabic courses based on the levels offered for bachelor's degree students within the institution. The results indicate that 20% of the respondents were from Level 1, 52% from Level 2, and 28% from Level 3.

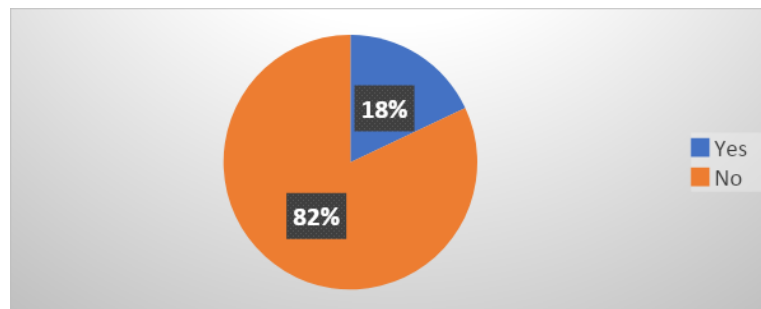


Fig. 6. Percentage for Basic Arabic

Fig. 6 presents the distribution of respondents based on their familiarity with basic Arabic. The data reveals that the majority (82%) did not have a basic Arabic background, while only 18% of them possessed basic Arabic knowledge.

4.2 Findings for Attention and Relevance

This section presents data to answer research question 1 *How do students perceive attention and relevance in learning Arabic?* In the context of this study, this is measured

through cognitive components (19 items) such as (i) rehearsal, (ii) organization, (iii) elaboration, and (iv) critical thinking.

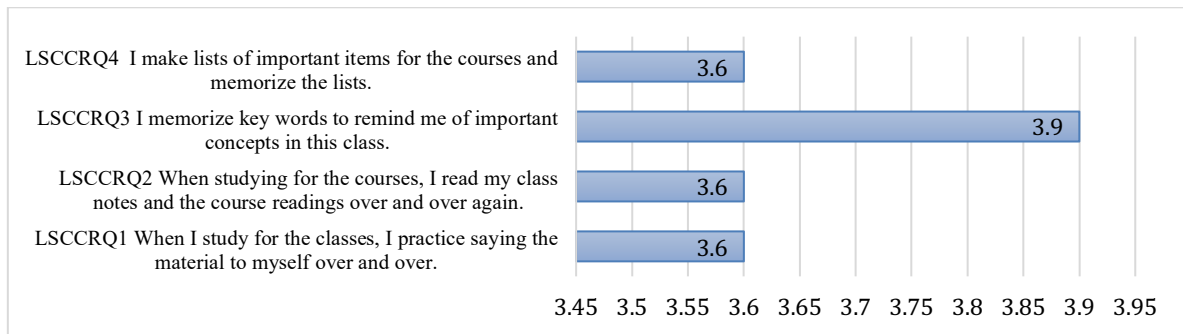


Fig. 7. Mean for Rehearsal

In Fig. 7, study programme students use different class preparation methods. With a mean score of 3.9, most students agree that remembering keywords helps them remember study subjects (LSCCRQ 3). The next three questions (LSCCRQ 1, 2, and 4) had a mean score of 3.6, indicating that students continue to pronounce and read materials, build lists of vital subjects, and memorize them.

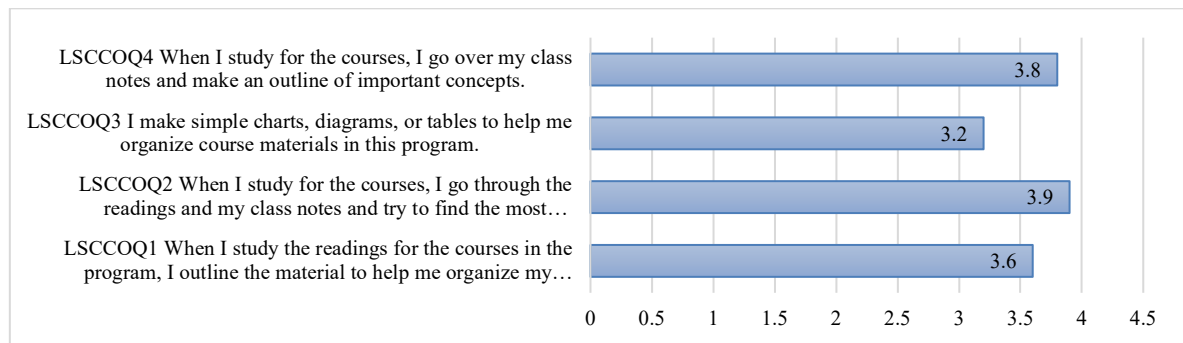


Fig. 8. Mean for Organization

Fig. 8 shows that students use reading and class notes to locate the main points, with a mean value of 3.9. (LSCCOQ 2). With a mean score of 3.8, they prefer reviewing class notes and emphasising key themes (LSCCOQ 4). Students also disliked making basic charts, diagrams, and tables to organize course information.

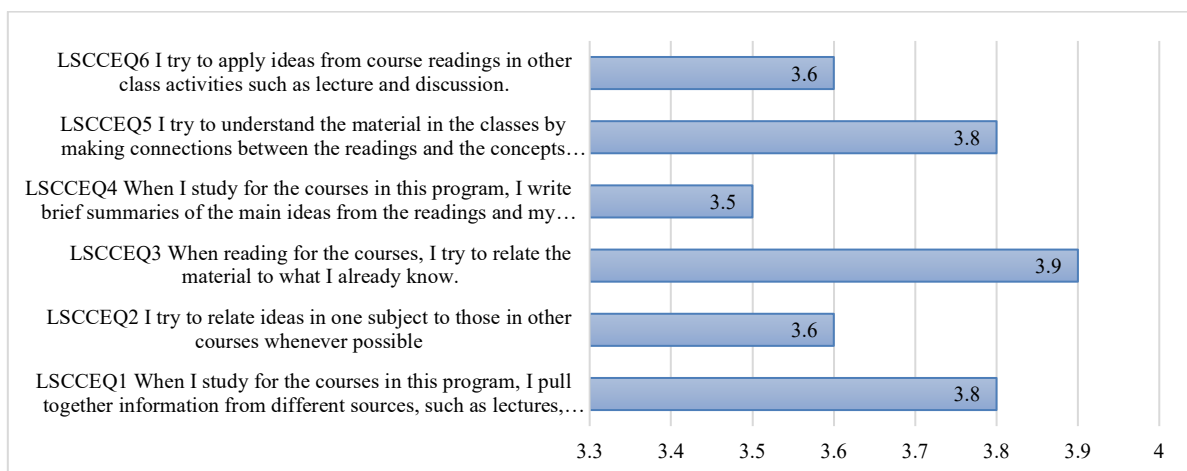


Fig. 9. Mean for Elaboration

Fig. 9 indicates that elaboration learning strategy students tie course reading to prior knowledge with a mean score of 3.9. (LSCCEQ 3). A mean score of 3.8 indicates that students prefer diverse sources and connect key points from reading and lecture subjects (LSCCEQ 1 and LSCCEQ5). Students' least favourite strategy, LSCCEQ 4, has a mean score of 3.5 because few write summaries of class notes and reading themes.

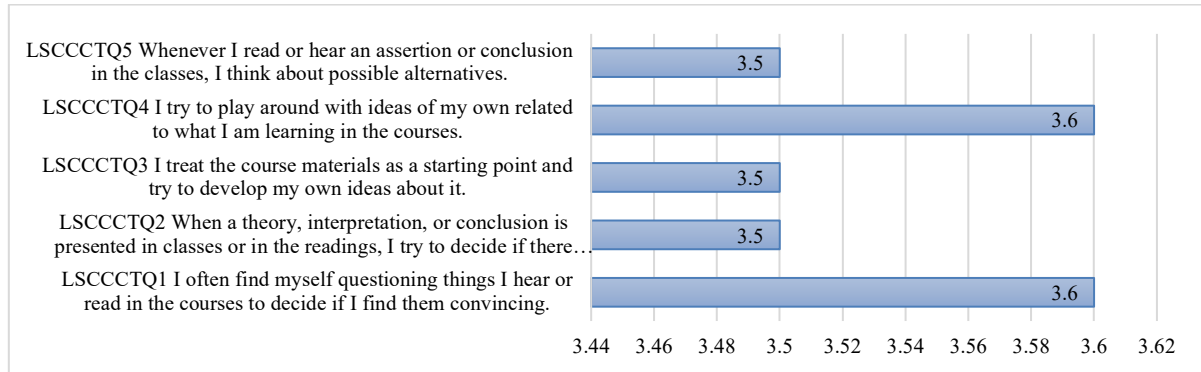


Fig. 10. Mean for Critical Thinking

Fig. 10 shows critical thinking data. Most students, with a mean value of 3.6, investigate what they hear or read in class to see if it interests them and apply it to their thoughts. LSCCCTQ 1–4. LSCCCTQ 2, 3, and 5 all have a mean value of 3.5, indicating that students try to determine if theory, interpretation, or conclusion has good supporting evidence, that they use course materials as a starting point, and try to develop their ideas about it and that they always look for possible alternatives when reading or hearing an assertion or conclusion in class.

4.3 Findings for Confidence

This section presents data to answer research question 2 *How do students gain confidence in learning Arabic?* In the context of this study, this is measured by components in metacognitive self-regulation (11 items).

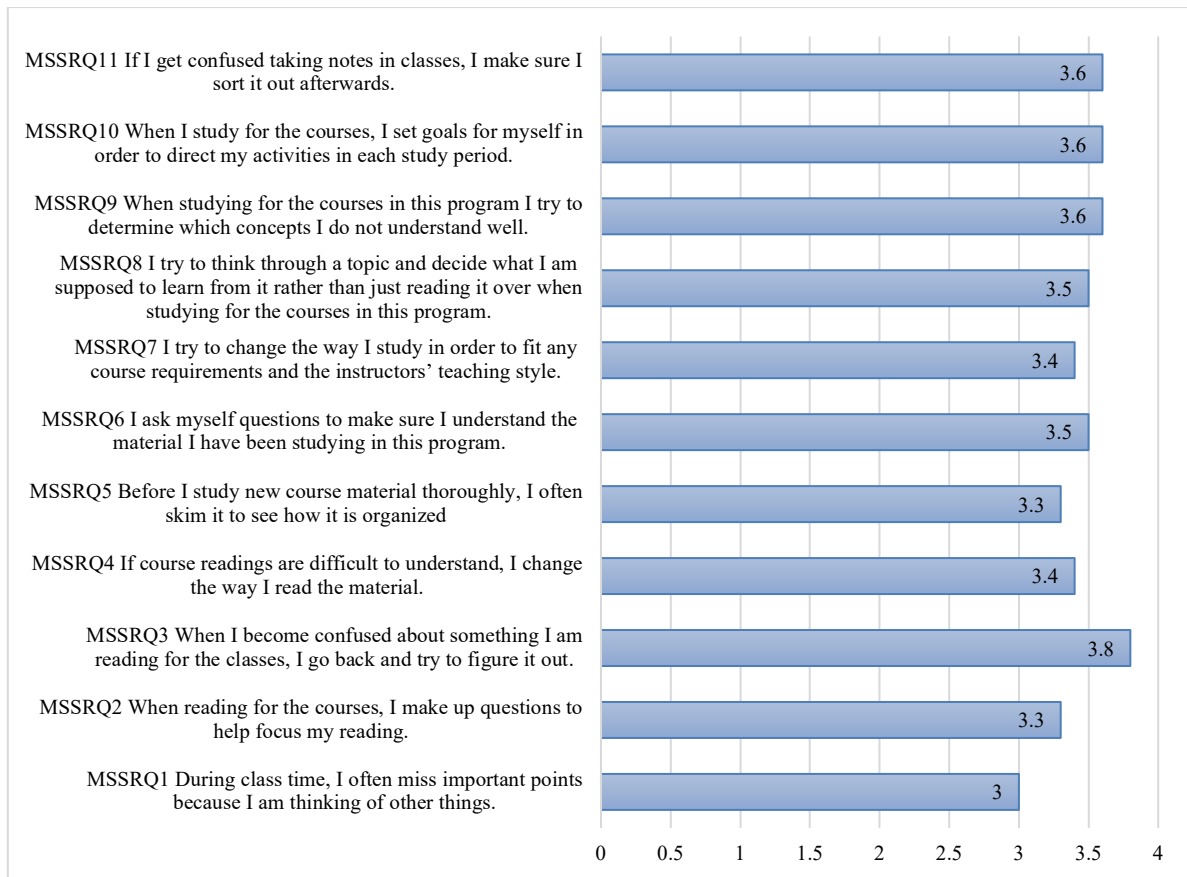


Fig. 11. Mean for Metacognitive Self-Regulation

Fig. 11 displays the average metacognitive self-regulation strategy score for 11 items. The highest mean ($M=3.8$) shows that most students agreed to revisit a topic they were confused about while reading for class. Most students agreed with these three items, all of which had a mean score of 3.6: first, they try to identify the concepts they are not sure they fully understand when studying for this program's courses; second, they set goals to help them focus their efforts during each study period; and third, if they are confused while taking notes in class, they figure it out later. However, the lowest mean score ($M=3$) shows that most students disagree, in class, they lose important information due to distraction.

4.4 Findings for Satisfaction

This section presents data to answer research question 3 *How do students perceive satisfaction in learning Arabic?* In the context of this study, this is measured by resource management components (11 items) such as (i) environment management, (ii) effort management and (iii) help-seeking.

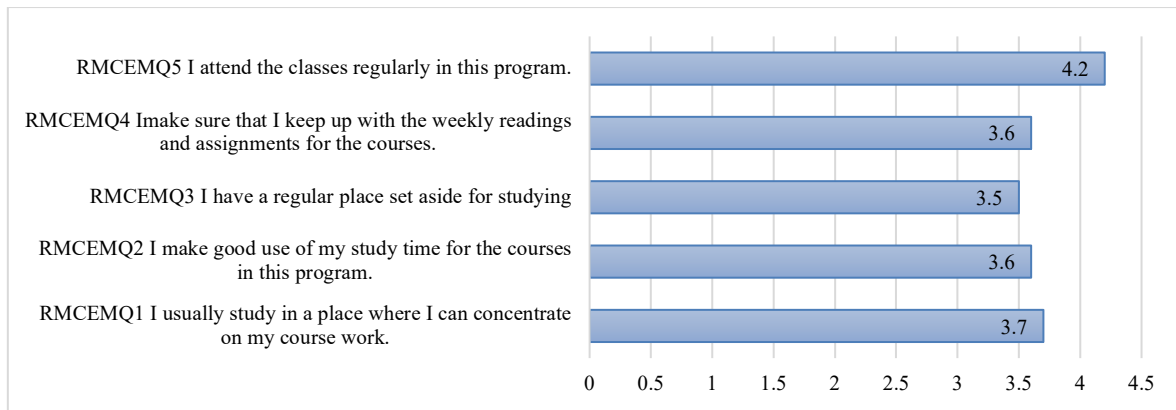


Fig. 12. Mean for Environment Management

Fig. 12 indicates that the Environment Management group serves as a potential indicator within the Resource Management Component in the context of learning Arabic as a foreign language. The data revealed a high level of favorability ($M=4.2$) among students regarding regular class attendance in this program, as indicated by item RMCEM5. Items RMCEM2 and RMCEM4 (mean score = 3.6) indicated that students effectively utilized their study time for the courses, ensuring diligent engagement with weekly readings and assignments. Following this, item RMCEM1 indicates that the respondents typically study in an environment conducive to concentrating on their coursework, with a mean score of 3.7. The item with the lowest score, RMCEM3 ($M=3.5$), reveals a concern: many lack a consistent study space, highlighting the absence of a designated location for learning activities.

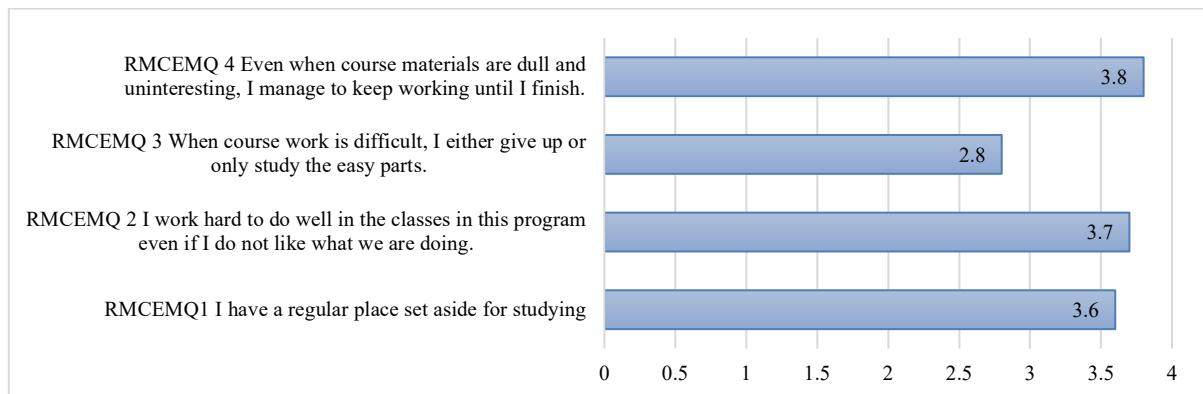


Fig. 13. Mean for Effort Management

Fig. 13 underscores the impact of effort management on shaping learning strategies in the acquisition of Arabic as a foreign language. Students strongly agreed with RMCEM4, scoring 3.8, indicating their ability to persist through uninteresting course materials. RMCEM2 ($M= 3.7$) showed their commitment to excel in program courses despite personal preferences. The mean score for RMCEM1, "I have a designated study space," was 3.6, indicating moderate agreement among respondents. RMCEM3 scored the lowest at 2.8, indicating a tendency among students to persevere and tackle challenging coursework instead of opting for easier tasks when faced with difficulty.

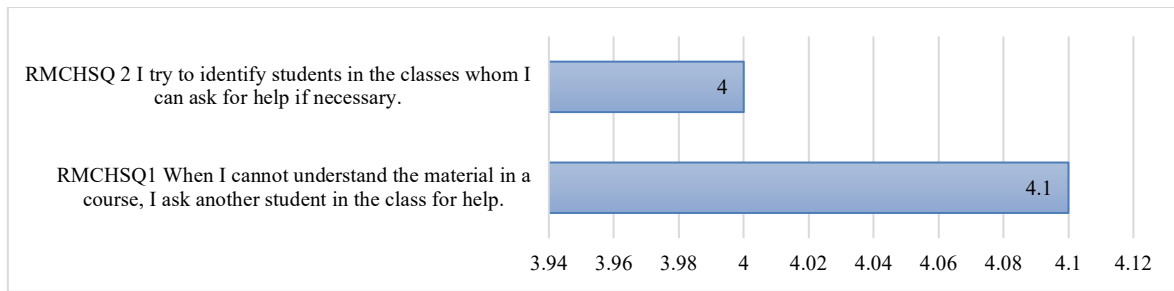


Fig. 14. Mean for Help-Seeking

Fig. 14 illustrates the means for Help-Seeking, a vital component within resource management strategies. Within this variable, two distinct items were identified. Respondents strongly concurred that in situations where they find the course material challenging, they prefer seeking help from their peers in the class ($M=4.1$). Additionally, they actively attempt to identify classmates whom they can approach for assistance when needed ($M=4.0$).

4.5 Findings for Relationship Between All Motivational Aspects

This section presents findings to answer research question 4 *Is there a relationship between all motivational aspects of learning Arabic strategies?* The findings are important to determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social, and affective strategies data is analysed using SPSS for correlations. Results are presented separately in Tables 4, 5, and 6 below.

Table 3. Correlation between Attention and Relevance and Confidence

		Attention Relevance	Confidence
Attention Relevance	Pearson Correlation	1	.797**
	Sig. (2-tailed)		<.001
	N	182	182
Confidence	Pearson Correlation	.797**	1
	Sig. (2-tailed)	<.001	
	N	182	182

** Correlation is significant at the 0.01 level (tailed).

Table 3 indicates there is an association between attention relevance and confidence. A highly significant association between attention relevance and confidence ($r=.797^{**}$) and ($p=.000$) was found by the correlation analysis for both items. According to Jackson (2015), a coefficient is significant at the .05 level, and a positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be between 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. The findings score for the correlation scale shows that there is a strong positive relationship between attention relevance and confidence.

Table 4. Correlation between Confidence and Satisfaction

		Confidence	Satisfaction
Confidence	Pearson Correlation	1	.785**
	Sig. (2-tailed)		<.001
	N	182	182
Satisfaction	Pearson Correlation	.785**	1
	Sig. (2-tailed)	<.001	
	N	182	182

** Correlation is significant at the 0.01 level (tailed).

Meanwhile, for ARCS model items confidence and satisfaction, Table 4 shows there is an association between confidence and satisfaction. Correlation analysis shows that there is a highly significant association between confidence and satisfaction ($r=.785^{**}$) and ($p=.000$). Jackson (2015) stated, that the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be between 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. Following the correlation findings between attention & relevance and confidence, there is also a strong positive relationship between confidence and satisfaction based on the correlation value shown in Table 4.

Table 5. Correlation between Satisfaction with Attention and Relevance

		Satisfaction	Attention Relevance
Satisfaction	Pearson Correlation	1	.718**
	Sig. (2-tailed)		<.001
	N	182	182
Attention Relevance	Pearson Correlation	.718**	1
	Sig. (2-tailed)	<.001	
	N	182	182

** Correlation is significant at the 0.01 level (tailed).

Table 5 above illustrates the association between satisfaction attention and relevance. Based on the correlation analysis, it is found that there is a highly significant association between satisfaction attention, and relevance ($r=.718^{**}$) and ($p=.000$). According to Jackson (2015), a coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be between 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. The results portray the same findings for correlation value which shows that there is also a strong positive relationship between satisfaction and attention and relevance.

5.0 CONCLUSION

5.1 Summary of Findings and Discussions

The results of this study indicate three important motivation components in the ARCS model are connected to students' Arabic language learning strategies. It is found that the cognitive component plays an important role in helping students perceive attention and relevance in learning the Arabic Language. Finding key ideas when reading and relating them

to prior knowledge helps to assist and direct the students in obtaining concentration and relevance in their Arabic language studies.

Apart from that, the majority of the students decided to reread the materials when they were having difficulties studying to develop confidence by using metacognitive self-regulation techniques. Moreover, the results also indicate that students agreed, consistently attended class, identified approachable classmates, sought help from peers demonstrated satisfaction in Arabic language learning. This study also revealed that satisfaction in the motivational aspect of the ARCS Model indicates the highest agreed-upon statement by the majority.

Furthermore, this study is consistent with Gonen and Akbarov (2016), which demonstrated that students utilised satisfaction as their preferred LLS. Wan Daud et al. (2020) reported the same findings in their study, which indicated that students learning Arabic through mobile apps had the highest mean score in satisfaction components of motivating factors.

The findings of this study also suggested that there are strong correlations between learning strategies and every motivation component in the ARCS model. These results are in line with the study by Javed et al. (2019) on student motivation for learning English as a second language (ESL).

Overall, this study's findings provide valuable insight into the most preferable LLS used by the students to enhance the Arabic language and motivate them to learn as well. In addition, this study helps educators deepen the current understanding of student needs in learning the Arabic language using the best strategies and methods. Choosing the best and most effective strategies and methods based on students needs help to improve the Arabic language teaching and learning process.

5.2 Suggestion for Future Research

This study only explores the students' strategies through the ARCS model of motivation aspects. The findings helped to identify students' needs in learning foreign languages. Future researchers could identify the related factors in LLS by comparing the students' LLS from different institutions or countries. In addition, future studies are encouraged to focus on how to fulfill the students' needs in learning strategies. For example, identify the best teaching method or model to encourage students to learn foreign languages. Moreover, besides the teaching method and model, choosing interesting topics and materials, notes and references could help the students. This indicates that future researchers are encouraged to explore and focus more on problem-solving to fulfill the students' needs in learning foreign languages. Finally, it is suggested that future researchers expand the limitation of language and samples to other foreign languages and samples from other educational institutions from outside the countries.

CO-AUTHOR CONTRIBUTION

In our collaborative research titled "A Study of Learning Strategies Using ARCS Model," each author made significant contributions, bringing unique expertise to the project. Author 1, with her keen insight into instructional design, played a pivotal role in shaping the study framework. Author 4, expertise in educational technology and innovation greatly influenced the integration of the ARCS model into our research design. Author 2, 's meticulous data analysis skills ensured the accuracy and reliability of our findings. Author 3, with a strong background in pedagogy, provided valuable perspectives on the practical implications of our study. Together, their collective efforts resulted in a comprehensive exploration of learning strategies within the context of the ARCS model. In the end, all authors provided critical feedback and helped shape the research, analysis, and manuscript.

ACKNOWLEDGEMENTS

We extend our thanks to our family and friends for their unwavering support of our achievements. Our heartfelt appreciation goes out to all those who played a direct or indirect role in contributing to this research.

REFERENCES

- Ahdika, A. (2017). Improvement of quality, interest, critical, and analytical thinking ability of students through the application of research-based learning (RBL) in introduction to stochastic processes. *International Electronic Journal of Mathematics Education*, 12(2), 167-191. <https://doi.org/10.29333/iejme/608>.
- Alcasoda, R. M., & Balaoro, J. M. (2022). Increasing learners performance and intrinsic motivation using gamified instructional materials: The ARCS model approach. *International Journal of Advance Research and Innovative Ideas In Education*, 8(4), 2446-2458.
- Alston, A. J., & Miller, W. W. (2002). Analyzing the barriers and benefits toward instructional technology infusion in North Carolina and Virginia secondary agricultural education curricula. *Journal of Agricultural Education*, 43(1), 1-12. <https://doi.org/10.1.1.505.8913>
- Biwer, F., Wiradhandy, W., Egbrink, M. O., Hospers, H., Wasenitz, S., Jansen, W., & Bruin, A. d. (2021). Changes and adaptations: How university students self-regulate their online learning during the COVID-19 pandemic. *Front. Psychol*, 12. <https://doi.org/10.3389/fpsyg.2021.642593>
- Brown, H. Douglas (2001). *Teaching by principles: An interactive approach to language pedagogy*. Pearson Education.
- Budiarti, Y. (2022). Language learning strategies, gender, and motivation in a foreign language context. *Journal of English as A Foreign Language Teaching and Research*, 2(1), 19-33. <https://doi.org/10.31098/jefttr.v2i1.780>.
- Chang, C., Chang, C. K., & Shih, J. L. (2016). Motivational strategies in a mobile inquiry-based language learning setting. *System*, 59, 100-115. <http://dx.doi.org/10.1016/j.system.2016.04.013>
- Chang, M., & Lehman, J. D. (2019). Learning foreign language through an interactive multimedia program: An experimental study on the effects of the relevance component of the ARCS model. *The CALICO Journal*, 20(1), 81-98. <https://doi.org/10.1558/cj.v20i1.81-98>
- Dornyei, Z. (2013). *The psychology of second language acquisition*. Oxford University Press. <http://archives.umc.edu.dz/handle/123456789/111141>
- Duncan, T. G., and McKeachie, W. J. (2005). The making of the motivated strategies for learning questionnaire. *Educ. Psychol*, 40, 117-128. https://10.1207/s15326985ep4002_6
- El-Adl, A., & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. *Cypriot Journal of Educational Sciences*, 15(1), 104-111. <https://eric.ed.gov/?id=EJ1246489>
- Fang, X., Ng, D. T. K., Leung, J. K. L., & Xu, H. (2023). The applications of the ARCS model in instructional design, theoretical framework, and measurement tool: A systematic review of empirical studies. *Interactive Learning Environments*, 1-28. <https://doi.org/10.1080/10494820.2023.2240867>
- Fauzi, M. F., & Anindiati, I. (2021). Improving the motivation of students in Arabic language learning through the learning management system. *Izdihar*, 4(3), 257-274. <https://doi.org/10.22219/jiz.v4i3.19110>
- Gonen, K., & Akbarov, A. (2016). Measuring the effect of blended learning on language learners' motivation with ARCS model. *International Journal of ELT, Linguistics and Comparative Literature*, 4(1).

- Hariyanto, H., Joyoatmojo, S., Nurkamto, J., & Gunarhadi, G. (2019). Correlation of learning motivation based on ARCS model with English achievement of midwifery students. *Lingua Cultura*, 13(3), 161. <https://doi.org/10.21512/lc.v13i3.5571>
- Istiqomah, H. (2021). The motivation to learn Arabic for beginner pupils at MAN 4 Banyuwangi (implementation of ARCS model). *Taqdir*, 6(2), 85–93. <https://doi.org/10.19109/taqdir.v6i2.6729>
- Jackson, S.L. (2015). *Research Methods and Statistics-A Critical Thinking Approach (5th Edition)*. Cengage Learning.
- Javed, F., Saher, N. U., & Baig, S. (2019). Investigating ESL learners' motivation through ARCS motivational design model. *Global Regional Review*, 4(3), 524-534. [http://dx.doi.org/10.31703/grr.2019\(IV-III\).56](http://dx.doi.org/10.31703/grr.2019(IV-III).56).
- Keller, J. M. (1987). Development of the use of the ARCS model of motivational design. *Journal of Instructional Development*, 10(3), 2-10. <https://doi.org/10.1007/BF02905780>.
- Keller, J. M. (2010). *Motivational design for learning and performance: The ARCS model approach*. Springer.
- Khalil, M. K., & Elkhider, I. A. (2016). Applying learning theories and instructional design models for effective instruction. *Adv Physiol Educ*, 40, 147-156. <https://doi.org/10.1152/advan.00138.2015>.
- Kurt, P. Y., & Kecik, I. (2017). The effect of the ARCS motivational model on student motivation to learn English. *European Journal of Foreign Language Teaching*, 2(1), 22-44. <https://doi.org/10.4304/jltr.2.1.68-72>.
- Lubis, R. A. P. (2023). The ARCS motivational model implemented by English teachers in teaching English as a foreign language at SMAN 1 Kota Bengkulu. *Teaching English and Language Learning English Journal*, 3(1), 1-11.
- Loorbach, N., Peters, O., Karreman, J., & Steehouder, M. (2015). Validation of the instructional materials motivation survey (IMMS) in a self-directed instructional setting aimed at working with technology. *British journal of educational technology*, 46(1), 204-218. <https://doi.org/10.1111/bjet.12138>.
- Mitsea, E., & Drigas, A. (2019). A journey into the metacognitive learning strategies. *International Journal of Online & Biomedical Engineering*, 15(14). <https://doi.org/10.3991/ijoe.v15i14.11379>.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Newbury House Publisher.
- Panadero, E. (2017). A review of self-regulated learning: six models and four directions for research. *Front. Psychol.* 8, 422. doi: 10.3389/fpsyg.2017.00422.
- Rahmat, N, H, Sukimin, I.S., Sim, M.K., Anuar, M., & Mohandas, E.S. (2021) Online learning motivation and satisfaction: A case study of undergraduates vs postgraduates. *International Journal of Asian Social Sciences*, 11(2),88-97. <https://doi.org/10.18488/journal.1.2021.112.88.97>.
- Richards, J. C., Platt, J., & Platt, H. (1992). *Language teaching and applied linguistics*. Longman.
- Seng, H. Z., Mustafa, N. C., Halim, H. A., Rahmat, N. H., & Amali, N. A. (2023). An investigation of direct and indirect learning strategies in learning foreign languages. *International Journal of Academic Research in Business and Social Sciences*, 13(3), 322-338. <http://dx.doi.org/10.6007/IJARBS/v13-i3/16492>.
- Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, 66, 101976. <https://doi.org/10.1016/j.cedpsych.2021.101976>.
- Wan Daud, W., Teck, W. K., Abdul Ghani, M. T., & Ramli, S. (2020). M-Learning boosts students' motivation to learn Arabic language proficiency at elementary level. *Universal Journal of Educational Research*, 8(10), 4384-4392. <http://dx.doi.org/10.13189/ujer.2020.081004>.

- Wegner, C., Minnaert, L., & Strehlke, F. (2013). The importance of learning strategies and how the project "Columbus-kids" promotes them successfully. *European Journal of Science and Mathematics Education*, 1, 137-143. <https://doi.org/10.30935/scimath/9393>.
- Wenden A and Rubin J (1987). *Learner strategies in language learning*. Prentice Hall
- Wimolmas, R. (2013). A survey study of motivation in English language learning of first year undergraduate students at Sirindhorn International Institute of Technology (SIIT), Thammasat University. *Proceedings Of the 3rd International Conference on Foreign Language Learning and Teaching 2013 (FLLT 2013)*, "Research, Renovation, and Reinforcement: Enhancing Quality in Language Education", Bangkok, Thailand.
- Yang, X., Zeng, L., & Xu, Z. (2021). An investigation of the language learning strategies used by Brazilian students learning Chinese as a foreign language. *Heliyon* 7. <https://doi.org/10.1016/j.heliyon.2021.e07476>
- Yusri, G., Rahimi, N. M., & Halim, W. H. (2011). Value and resource management strategies among students of Arabic as a third language course. *Procedia - Social and Behavioral Sciences*, 29, 1635-1644. <http://dx.doi.org/10.1016/j.sbspro.2011.11.406>
- Zhang, J. (2015). Improving English listening proficiency: the application of ARCS learning-motivational model. *English Language Teaching*, 8(10), 1-6.

THE MODERATING EFFECT OF GENERATIONAL CHARACTERISTICS ON THE RELATIONSHIP BETWEEN PSYCHOLOGICAL CAPITAL AND JOB PERFORMANCE: THE DEVELOPMENT OF CONCEPTUAL FRAMEWORK

Zuraidah Sipon^{1*}, Muhammad Majid², Norshahniza Sahari³

¹²³*Faculty of Business and Management, Universiti Teknologi MARA, UiTM Johor Segamat Campus, 85000 Segamat, Johor, Malaysia*

*Corresponding Author

Email: ¹zurai973@uitm.edu.my, ²muhdmajid@uitm.edu.my, ³norsh239@uitm.edu.my

Received: 1st February 2024
Accepted: 29th November 2023

ABSTRACT

Employee job performance plays a pivotal role in ascertaining an organisation's competitive edge. Despite the recent surge in interest in Psychological Capital (PsyCap) as a novel approach to augmenting employee job performance, this area of study has received limited attention in the Malaysian context. Meanwhile, the issue of stress and anxiety appears to be closely associated with Generation Z (Gen Z). As the youngest cohort in the workforce, the initial phase of Gen Z's entry into the workplace gives rise to various concerns, including job engagement and job turnover. Despite extensive discussions on these matters in recent studies, the understanding of their impact on job performance and the underlying mechanisms remains limited. Hence, this conceptual paper aims to propose a conceptual model that empirically examines the relationship between PsyCap and job performance. Additionally, the role of generational characteristics as a moderator in this relationship will also be explored. The proposed conceptual framework holds significant potential for contributing to future research endeavours.

Keywords: Psychological Capital, Job Performance, Generational Characteristics, Gen Z

1.0 INTRODUCTION

A nation's economic well-being heavily relies on the strong job performance of its employees. This enhances productivity, innovation, and consumer expenditure, all of which contribute to a robust and competitive economy. Employees who demonstrate exceptional performance are more efficient and productive. When a significant segment of the workforce exhibits outstanding performance in their respective roles, it leads to elevated levels of efficiency and the creation of commodities and amenities, thereby fortifying a nation's Gross Domestic Product (GDP). Furthermore, employee performance is closely linked to job security, higher earnings, and greater disposable income. Consequently, because of this, there is a rise in the expenditure by consumers, which functions as a noteworthy driver for the advancement of the economy (OECD, 2023).

Meanwhile, the highly adept and digitally native Generation Z (Gen Z) brings fresh perspectives and skills that are vital for driving the industry's digital transformation. Gen Z is subject to the influence of multiple factors, encompassing their upbringing in an epoch post the catastrophic 9/11 incident, the financial slump acknowledged as the formidable Great Recession, and the ubiquity of technology and social media platforms (McKee-Ryan, 2021). The entrance of Gen Zers into the labour force introduces novel prospects and difficulties within the existing work milieu. Gen Z personnel can contribute to enhancing the overall client experience, developing innovative solutions, and improving operational efficiency in organisations due to their comfort and familiarity with technology. Managers must possess a comprehension of the distinct attributes and conduct of the generation known as Gen Z to proficiently oversee and incorporate them within the professional environment (Schroth, 2019).

Despite the triumphant resolution of the most severe worldwide epidemic in history, it is worth noting that individuals within the workforce have consistently experienced elevated levels of anxiety. Deloitte's 2023 Gen Z and Millennial Survey highlighted that Gen Z members frequently experience stress and anxiety. 42% of Gen Z in Malaysia and 46% of Gen Z globally claimed to feel anxious or stressed all or most of the time. The same survey also reported that 44% of Malaysian Gen Z and 42% of Gen Z globally are concerned about their mental health. Other than stress and anxiety, employee burnout also contributes to employee's mental health and correlates with turnover intention (Hadi & Adriansyah, 2023). This is where psychological capital, often known as PsyCap, has recently acquired more traction in organisational behaviour. PsyCap has been empirically demonstrated to exert an influence on the conduct, disposition, and occupational achievement of employees (Castro, 2023; Ali et al., 2022; Feng, 2020; Shahzad, 2022; Georgiou et al., 2021). PsyCap, in essence, pertains to the constructive mental resources possessed by an individual, namely hope, self-efficacy, resilience, and optimism, collectively referred to as HERO (Luthans et al., 2015), which enable them to effectively cope with challenging circumstances and perform proficiently within the workplace.

In the meantime, a limited amount of research has discovered a noteworthy association between PsyCap and employee performance, in which variables like age, gender, and tenure act as moderators (Wu & Nguyen, 2019). The efficacy of the connection has been evaluated in the compatibility of persons and establishments, along with the agreement between individuals and their occupational responsibilities (Choi and Cho, 2020). Moreover, according to Kappagoda et al. (2014), the significance of work ethics has also been unearthed to be notable within this framework. However, additional investigation is required to determine the extent to which Gen Zers' characteristics moderate this relationship. According to Scholz (2019), practically, all the early research on Gen Z was done in the United States, which gave this group a biased perception. Gen Zers' tastes, visions, and characteristics differ by location (Scholz, 2019) or even by how they see their workplaces (Leslie et al., 2021) based on external situational elements like events, crises, technological advancements, or youth-related trends. Research carried out in diverse regions, encompassing Asia and Europe, will make a substantial contribution towards attaining a more all-encompassing perspective. This is achieved by considering disparities in educational frameworks, societal anticipations, and professional standards. It is of utmost importance for organisations to comprehend the requirements and perspectives of Gen Z to formulate effective strategies and policies that guarantee the establishment of a conducive and cooperative setting (Tang, 2019).

Therefore, this study aims to investigate the association between PsyCap and job performance with the moderation effect of Gen Zers' characteristics. This study introduces a ground-breaking subject on which limited prior research has concentrated particularly by

comprehensively testing the PsyCap dimensions on the job performance of Gen Z. This study's contribution will provide a deeper comprehension and greater awareness of how Gen Z relates to the workforce and the workplace. The generated information will also yield data that can serve as evidence to back up forthcoming investigations. In addition, it will aid human resource management (HRM) in more effectively addressing the requirements of individuals from Gen Z, while simultaneously enhancing the company's worth. The practical consequences of the study are crucial for HRM in any organisation, especially in the aspect of intervention planning strategies and talent search procedures.

2.0 CONCEPTUALISATION OF VARIABLES

2.1 Job Performance

The attainment of triumph within a corporation is heavily reliant on the execution of its personnel in their roles, as this exerts a direct influence on the degrees of output, efficacy, and entirety of commercial outcomes. In the pursuit of achieving excellence, it becomes of utmost importance to comprehend the methods that can enhance and optimize employee performance. Motowidlo et al. (2014) proposed a theoretical framework for understanding job performance, which posits it to be behavioural, episodic, evaluative, and multi-dimensional. According to the authors, job performance can be defined as the collective value of the discrete behavioural episodes carried out by individuals within a specified timeframe. One crucial element of this theory lies in its claim that the understanding, abilities, professional routines, and characteristics linked to the execution of tasks vary from those associated with the execution of contextual duties.

2.1.1 Task Performance

According to Albert (2022), task performance pertains to the execution of precise job-related activities or tasks, such as the completion of assignments or the adherence to deadlines. It centres on an individual's capacity to carry out the required tasks with accuracy and efficiency. The nature of task performance revolves around an individual's adeptness in executing specific job-related tasks. Additionally, the significance of task execution resides in its immediate association with the precise employment obligations and duties, and task performance can be assessed using unbiased criteria, such as precision and effectiveness in accomplishing assignments. Within the context of the workplace, task performance pertains to the precise job-related activities and obligations that an employee is anticipated to fulfill (Koopmans et al., 2014). It is assessed through objective or subjective indicators of job performance. Corbeanu and Iliescu (2023) further added that task performance is influenced by individual-level factors, such as ability and motivation. A recent investigation conducted by Edgar et al. (2021) unveiled the significant influence of both ability and motivation on the execution of tasks.

2.1.2 Contextual Performance

Contextual performance refers to behaviours that contribute to the overall functioning of the organisation yet are not directly linked to the specific tasks or job requirements (Landy et al., 2017). These behaviours encompass actions such as aiding colleagues, volunteering for additional responsibilities, and engaging in organisational citizenship behaviours. It concerns itself with behaviors that enhance the overall functioning of the organisation extend beyond tasks and contribute to the overall effectiveness of the organisation. The research conducted by Palenzuela et al. (2019) postulates that there exists a correlation between contextual performance, the quality of working life, and the health of professionals. Investigations conducted in Malaysia have undertaken an examination of various factors that are linked to employee performance. The

variables encompass telecommuting (Ishak et al., 2022), duration of employment (Ahmad et al., 2021), the execution of efficient human resource management (HRM) strategies (Lim & Ahmad, 2021), organisational atmosphere (Abdullahi et al., 2021), in addition to time constraints and skill autonomy (Zainuddin et al., 2021). Therefore, considering the progress of organisations, the comprehension, and management of employee job performance remain crucial foundations for promoting productivity, creativity, and sustainable growth.

2.2 Psychological Capital

Luthans et al. (2007) formulated the concept of Psychological Capital (PsyCap), which denotes the advantageous mental state of an individual's progress, encompassing elements such as hope, self-assurance, adaptability, and positive outlook. The underpinnings of theory and research, quantifiability, the potential for development, and association with positive work outcomes have firmly linked PsyCap to favourable organisational behaviour (Luthans, 2002a; Luthans, 2002b). Moreover, the theoretical and empirical proof extensively upholds the separate legitimacy of every positive psychological concept, including self-efficacy, hope, optimism, and resilience (Snyder, 2000 as mentioned in Lin et al., 2023). PsyCap is widely acknowledged as a crucial asset within work settings and has proven to have a favourable impact on both the effectiveness of organisations and individual job performance. Additionally, scholars have recognized the considerable value of PsyCap as a sustainable competitive advantage within the context of dynamic business environments (Goswami & Goswami, 2023).

2.2.1 PsyCap and Job Performance

The concept of PsyCap encompasses an individual's constructive psychological state of growth, which includes elements such as hope, self-efficacy, resilience, and optimism, collectively known as HERO. Empirical investigations have yielded substantiation that psychological capital, encompassing personal assets such as optimistic perspective, aspiration, adaptability, and self-confidence, possesses the capacity to engender a favourable influence on occupational effectiveness (Hsu et al., 2014). It has been determined that psychological capital engenders a surge in favourable workplace conduct, a decline in negative behaviours, and the mitigation of stress-related manifestations (Abbas & Raja, 2015; Kryshatanovych et al., 2022; Brunetto et al., 2022). In a separate study centred on individuals seeking employment, Georgiou et al. (2022) revealed that the acquisition of psychological capital training yielded heightened levels of job search endeavours and augmented rates of employment.

PsyCap has attracted significant attention in Malaysia and has been the primary subject of extensive investigations aimed at examining its influence on employee well-being and organisational performance (Othman, 2021; Jiony et al., 2021; Alias et al., 2020; Abdullah & Sabri, 2022). Scholars also have underscored the importance of cultivating PsyCap among individuals in the social welfare sector to ensure their well-being and effectiveness (Al-Abrarb et al., 2023). Moreover, Hassian et al. (2022) have highlighted the pivotal role played by PsyCap in optimizing organisational performance. However, the exploration of PsyCap in Malaysia has been confined to a select few domains, namely education (Othman, 2021), the hospitality sector (Jiony et al., 2021), and the governmental sphere (Alias et al., 2020), despite the introduction of PsyCap as early as 2002. These studies have identified gaps in the theoretical development and empirical research on PsyCap in Malaysia, thereby underscoring the necessity for further investigation.

2.2.2 Hope and Job Performance

According to the research conducted by Snyder et al. (1991), the notion of hope can be defined as a constructive motivational condition that arises from a perception of achievement, which is obtained from interconnected origins. Furthermore, it entails both the concepts of agency and pathway. The agency represents the focused vigour towards attaining a particular objective, while the pathway signifies the strategic planning employed to realize said objectives. In his works, Snyder (2000) elucidates hope as "the fusion of both the volition (agency) and the means (pathways) at one's disposal for the achievement of personal aspirations." It epitomises the determination to attain the desired outcome (Snyder, 2000; Snyder et al., 1996). As posited by Snyder (2000), agency and pathways thinking are interrelated and function in a synergistic, iterative manner to engender hope. The job performance of employees can be positively influenced by hope, as indicated by numerous studies. A comprehensive analysis of 133 effect sizes derived from 45 primary studies unveiled a statistically significant and positive connection between hope and work performance (Reichard et al., 2013). Another investigation underscored the advantages of hope in the workplace, encompassing enhanced performance, heightened employee engagement, increased job satisfaction, and improved mental well-being (Wandeler et al., 2016).

Moreover, scholarly inquiry has indicated that hope is positively linked to job performance, optimism, and creativity, and it can also forecast performance when combined with creativity (Carlomagno et al., 2014). Meanwhile, Mishra et al. (2016) have reported that hope has exhibited a favourable connection with job contentment while displaying an adverse relationship with indicators of stress. Despite a limited body of literature within the Malaysian context, the authors agreed with the crucial role of hope in augmenting both employee job performance and well-being. For instance, Alias et al. (2020) examined the concept of PsyCap in the public sector, while Chan and Hooi (2023) investigated the impact of rewards and acknowledgments on employee motivation, which in turn influences employee performance. Therefore, hope has been recognized as a significant psychological asset that contributes to academic achievement, career advancement, and job performance. This underscores the importance of fostering hope among employees to achieve superior organisational performance.

2.2.3 Self-Efficacy and Job Performance

Self-efficacy can be defined as the belief in one's ability to mobilize the motivation, cognitive resources, and courses of action necessary to perform a specific action within a given context (Stajkovic & Luthans, 1998, p. 66). Bandura's 1997 social cognitive theory functions as the fundamental basis for self-efficacy. Bandura (1997) asserts that self-efficacy holds considerable influence over both personal and professional lives through its impact on cognition and motivation. Individuals with higher levels of self-efficacy are characterized by their ability to select challenging goals for themselves and then devote substantial time and energy to achieving those goals despite obstacles or barriers. Self-efficacy plays a crucial role in job outcomes, as evidenced by its correlation with job performance, job satisfaction, turnover intentions, and other related factors (Youssef & Luthans, 2005). Employees who possess strong self-efficacy are more confident in their ability to handle daily tasks and effectively address long-term challenges. Self-efficacy exerts a substantial impact on the job performance of employees.

Numerous investigations have demonstrated a positive correlation between self-efficacy and individual motivation, self-confidence, proactive behaviour, and work performance (Lyons & Bandura, 2018; Mishra et al., 2016; Wang et al., 2021; Lin et al., 2021). It is important to

acknowledge, however, that the association between self-efficacy and job performance does not always follow a linear pattern. An excessive level of self-efficacy can hinder success, whereas a low level of self-efficacy may not necessarily impede success if employees perceive their work environment as supportive (Guillén, 2021). On the contrary, Setyawati et al. (2022) claimed that there is an insignificant effect of work motivation on employee performance, while Carter et al. (2018) asserted that self-efficacy has an additive effect when combined with employee engagement in explaining job performance.

2.2.4 Resilience and Job Performance

Resilience is the ability to sustain and recover from issues, conflicts, failures, or situations that require increased responsibility (Luthans et al., 2007). Another view by Stewart et al., (1997), claimed that the ability of individuals to deal well in the face of considerable change, hardship, or risk is defined as resiliency. Harms and Wood (2016) defined resilience as the capacity to uphold both one's state of well-being and performance even in the face of challenging circumstances, while also possessing the ability to quickly recover from setbacks. Well-being and resilience are essential to managing unwanted behaviour through empowerment (Abbas, 2022), whereas Carter and Youssef-Morgan (2019), claimed that resilience is required to maintain inner motivation and support during organisational change. The common denominator across these outcomes is an individual's ability to not only deal with setbacks or weaknesses but also recover to a former state or level.

Resilient people can recover quickly from stressful circumstances and successfully manage high demands at work. Furthermore, high-resilient employees can keep a positive attitude and overcome challenges by concentrating on their strengths and possibilities. Studies indicate that increased levels of resilience are linked to improved job performance (Weiss et al., 2023; Beuren et al., 2022; Crane, 2021). Moreover, employees who demonstrate resilience are more likely to experience favourable outcomes in demanding work environments, which encompass reduced stress levels, decreased burnout, and fewer sleep-related issues, as well as heightened job satisfaction and enhanced productivity (Shatté et al., 2017). Kim (2020) claimed that the establishment of organisational resilience, which is fostered by resilient employees, holds a positive influence on the work-role performance of employees, including their proficiency, adaptability, and proactivity.

2.2.5 Optimism and Job Performance

Optimism is defined as a generalised expectation of a favourable outcome (Carver & Scheier, 2002), while Seligman (1998) defined optimism in positive organisational behaviour (POB) as pervasiveness, persistence, and personalization. Permanence simply means that optimists often regard negative outcomes or occurrences as fleeting and positive outcomes as long-lasting. In terms of pervasiveness, optimists allow positive outcomes and results to fulfill one's entire life rather than just one area (e.g., work, family, etc.). Optimists prefer to look externally for reasons why terrible events occur while internalising positive events. As a result, employees with high levels of optimism appear to embrace happy outcomes because of their work, effort, and so on, while dismissing unpleasant events because of chance or coincidence.

When confronted with uncertain situations such as employment, an optimistic employee anticipates things to turn out positively. However, according to Ngan et al. (2019), employees in the initial stage of their careers often possess idealistic and overly positive expectations regarding their prospects for advancement, which can result in adverse outcomes in terms of reduced job

satisfaction. Furthermore, optimism holds a significant organisation role in exerting influence over the job performance of employees. As evident, extensive research substantiates the claim that individuals with a positive perspective and an optimistic mindset tend to experience higher levels of job satisfaction and achieve superior performance outcomes (Kenneally, 2020; Hough et al., 2020; Jensen et al., 2007). Consequently, by cultivating a sense of optimism among employees, organisations can effectively enhance job performance and overall organisational outcomes.

2.3 Generational Characteristics

Generational differences in the workplace have garnered significant attention; however, there is a scarcity of empirical evidence to substantiate the assertion that generations are inherently dissimilar (Stassen et al., 2016). The current literature on generational distinctions needs a stronger foundation of empirical evidence and theoretical support. However, according to Lowe et al. (2020), managers must acknowledge individual differences and treat employees as unique entities, rather than relying on stereotypical generational assumptions. Generational characteristics, on the other hand, pertain to the distinctive perspectives, values, and qualities shared among individuals of a specific generation because of experiencing comparable life-altering occurrences during pivotal developmental stages (Barak, 2022). Societal modifications, such as the decline of a political regime and subsequent metamorphosis of structures and norms can impact these attributes. Millová et al. (2021) asserted that generational theory can be employed to forecast individual conduct and exploit shared qualities within the professional or educational milieu. Scholarly inquiry has investigated various approaches aimed at optimizing the capacity for learning among millennial students through an understanding of their characteristic traits. Attributes associated with different generations are shaped by both individual and societal factors and can be employed to comprehend and engage distinct generations within a range of contexts (Millová et al., 2021; Syed & Nguyen, 2021).

2.3.1 Generational Characteristics and Job Performance

The effects of generational characteristics on employee job performance can manifest in various ways. According to Cao and Hamori (2023), developmental job experience (DJE) exhibits a positive indirect correlation with job performance by enhancing employees' quest for information and support. This correlation is more pronounced among employees who work in teams with a high average DJE and low DJE variance. While extensive research has been conducted on generational disparities in work-related factors, including personality, work values, attitudes, and career patterns, the evidence regarding the differentiation of generations in the workplace is scarce and contradictory (Lyons & Kuron, 2014; Stassen et al., 2016). Furthermore, Aggarwal et al. (2023) posited that the human resources policies and practices implemented can influence job satisfaction and performance among employees of Gen Z. Factors such as flexible work practices, reward and recognition systems, compensation and benefits, feedback-seeking behaviour, and participation in voluntary work positively impact Gen Z. Nevertheless, further research is required to comprehensively comprehend the relationship between generational characteristics and job performance.

2.3.2 Generational Characteristics and PsyCap

The PsyCap of employees is influenced by generational characteristics. The younger generation of employees experiences a distinct developmental environment characterized by rapid economic progress and diverse values, which in turn affects their mental state and adaptability. In the realm of human resource management, it is crucial to effectively manage the PsyCap of these employees (Xin, 2022). According to Kim et al. (2021), the innovative behavior of employees is indirectly influenced by their developmental work experience, through the lens of

their PsyCap and burnout. This connection is shaped by the employees' perception of job mobility within the organisation. Meanwhile, the mediating role of job crafting, undertaken by employees, comes into play in the relationship between psychological capital and innovation outcomes.

The proactive personality of the employees moderates this mechanism as reported by Tho (2022). A positive correlation exists between PsyCap and employee performance and job satisfaction, while an inverse relationship is observed with job insecurity and stress. The support provided by supervisors for creativity, along with the characteristics of the job, effectively modulate the relationship between PsyCap and self-reported employee creativity as claimed by Cai et al. (2019). In conclusion, the characteristics associated with different generations influence the PsyCap of employees, which subsequently impacts outcomes such as job performance, innovation, and job satisfaction. The provision of support by supervisors and favourable job characteristics can enhance the impact of PsyCap on employee creativity.

2.4 Underpinning Theory

In the realm of scholarly inquiry, the underpinning theory serves as a fundamental framework and theoretical basis upon which research is built. It serves as a guiding force for researchers as they embark on the design of their studies, aiding in the comprehension of existing knowledge and pertinent concepts germane to the subject of investigation. This particular study is situated within the context of two pivotal theories.

2.4.1 Job Demand-Resource (JD-R) Theory

The JD-R (Job Demand-Resource) Theory serves as a framework aimed at comprehending the correlation between workplace satisfaction and productivity (Bakker et al., 2007). Job Demand refers to the characteristics of a job that necessitate exertion, be it physical, psychological, or emotional, and are associated with costs. The theoretical proposition posits that elevated work-related requisites have the potential to engender stress and debilitate well-being, whereas heightened work-related assets have the propensity to augment drive and efficacy (Bauer et al., 2014; Schaufeli & Taris, 2013). Job resources, such as autonomy, feedback, and opportunities for development, can alleviate the adverse effects of job demands and enhance work engagement.

However, according to Schieman (2013), excessive or persistent job demands may result in fatigue and a decline in health. This process can ultimately lead to burnout and health-related concerns. In contrast, job resources can enhance motivation and yield positive work outcomes, such as enhanced job performance and job satisfaction. Individuals are more likely to be interested and motivated in their work when they possess the necessary resources. The core concept of the JD-R Theory revolves around achieving a balance between work demands and resources. This equilibrium is crucial in ensuring employee well-being and productivity. To promote a more conducive work environment, organisations can employ this theory to identify and manage job requirements and resources.

2.4.2 Generational Theory

The theory of generations, also known as the sociology of generations, was initially proposed by Karl Mannheim in 1928 in his article "Das Problem der Generationen." This theory was later translated into English in 1952 as "The Problem of Generations." According to Mannheim's theory, the social consciousness and perspective of young individuals maturing during a specific period

are greatly influenced by the primary historical events that occur in that time and place, which is referred to as their "generational location." Meanwhile, Barak et al. (2022) asserted that generational theory postulates the notion that individuals belonging to a specific cohort possess distinct viewpoints, principles, and characteristics because of encountering identical transformative occurrences during pivotal periods of their development. Mannheim (1952) highlighted that not every generation will exhibit a unique and distinctive consciousness. The extent to which societal change occurs significantly impacts whether a generation can develop a distinct consciousness.

Additionally, the author also claimed that individuals acquire significant values from their parents and local communities, resulting in each cohort holding the same fundamental principles throughout their lives. However, each new generation learns about the world and develops a different perspective on society. This theory has the potential to serve as a mechanism for forecasting an individual's actions and exploiting common characteristics in diverse environments, such as the professional realm or educational institutions (Barak et al., 2022). Generational theory has also found practical application in various domains such as e-commerce, pedagogy, medicine, tourism, and marketing, to comprehend consumer inclinations and broaden the scope of target demographics as claimed by Alanen (2020). In the context of this study, the theory of generations serves as the foundation for understanding the influence of generational characteristics on the relationship between PsyCap and job performance.

3.0 METHODOLOGY

This study examines the extant body of literature about the variables and the empirical data concerning each variable to construct the conceptual framework. A total of 93 articles were scrutinized to ascertain the concepts, their dimensions, and the interrelationships among them.

4.0 DEVELOPMENT OF CONCEPTUAL FRAMEWORK

This study focuses on four dimensions of PsyCap: hope, self-efficacy, resilience, and optimism (Luthans et al., 2015) as predictors of job performance with the influence of generational characteristics (see Figure 1).

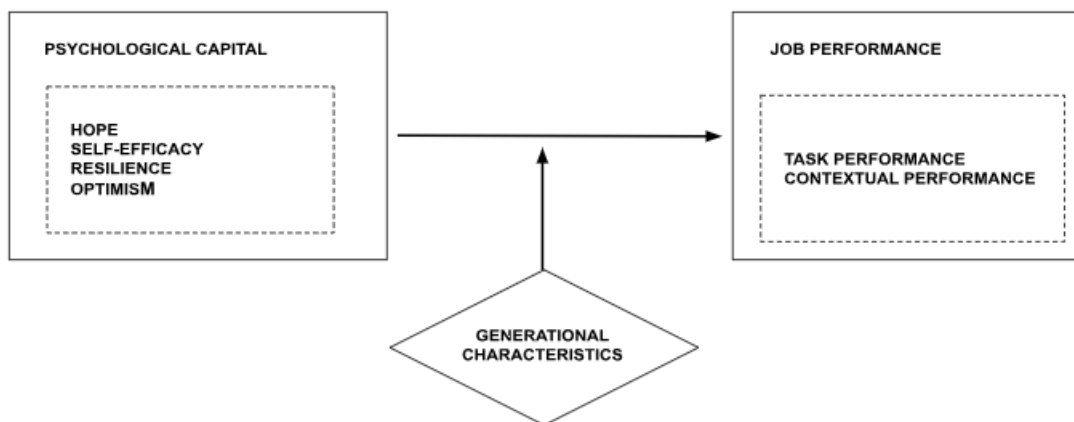


Fig. 1: Conceptual Framework

From the proposed framework, the following hypotheses are suggested:

H1: There is a significant positive influence of psychological capital (hope, self-efficacy, resilience, optimism) on the employee job performance.

H2: Generational characteristics significantly moderate the relationship between psychological capital (hope, self-efficacy, resilience, optimism) and employee job performance.

5.0 CONCLUSION

This conceptual paper presents the conceptual model within the context of Malaysia. While previous studies have established a positive direct association between PsyCap and job performance, the potential moderating effect of generational characteristics remains untested thus far. Empirical evidence suggests that there are linkages among the constructs. As such, Gen Z characteristics can serve as a moderating variable that may affect the direct relationship between PsyCap and job performance.

This review will make a valuable contribution to the existing body of knowledge regarding the literature on organisational behaviour. Moreover, it holds significant practical implications for the promotion of workforce diversity within the contemporary workplace. By understanding these dynamics, organisations can create a work environment that fosters employee well-being, ultimately leading to enhanced organisational performance. Understanding the attitudes, values, and expectations of this generation can enable organisations to fully leverage their potential, thereby fostering a more productive and cohesive workforce. This, in turn, can result in increased organisational productivity, reduced turnover rates, and improved employee engagement and job satisfaction. Finally, as the proposed framework has not yet been explored, it offers a pathway for future research in the field of PsyCap and its impact on job performance.

REFERENCES

- Abbas, A. (2022). *Individual psychological distance: A leadership task to assess and cope with invisible change*. [Dissertation]. Airlangga University.
- Abbas, M., & Raja, U. (2015). Impact of psychological capital on innovative performance and job stress. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 32(2), 128-138.
- Abdullah, N. H., & Sabri, N. I. A. (2022). Does banking employees' mental health affect their creativity? *Research in Management of Technology and Business*, 3(1), 001-015.
- Abdullahi, M., Raman, K., & Solarin, S. (2021). Effect of organisational culture on employee performance: A mediating role of employee engagement in Malaysia educational sector. *International Journal of Supply and Operations Management*, 8(3), 232-246.
- Ahmad, A., Nabila, S., Ambad, A., Jamal, S., Nasir, A., Mohd, S., & Lajuni, N. (2021). The moderation effect of job tenure on psychological empowerment and employee performance in Malaysia's public sector. *International Journal of Academic Research in Business and Social Sciences*, 11(4), 780-796.
- Aggarwal, A., Sadhna, P., Gupta, S., Mittal, A., & Rastogi, S. (2022). Gen Z entering the workforce: Restructuring HR policies and practices for fostering task performance and organisational commitment. *Journal of Public Affairs*, 22(3), e2535.
- Al-Abrar, Abdul, Wahid., Idaya, Husna, Mohd., Muhamad, Khalil, Omar. (2023). Psychological Capital (PSYCAP), emotional labour, and burnout in Malaysia: An Overview. *International journal of academic research in business & social sciences*, 13(5) doi: 10.6007/ijarbss/v13-i5/16656

- Alanen, L. (2020). Generational order: Troubles with a 'travelling concept'. *Children's Geographies*, 18(2), 141-143.
- Albert, Á. (2022). Language Tasks. In *Investigating the Role of Affective Factors in Second Language Learning Tasks*, 31-49.
- Alias, N. E., Abu, N., Koe, W. L., Marmaya, N. H., & Romaiha, R. O. N. R. (2020). Does psychological capital matter for public sector employees? A survey of the impact of psychological capital on individual job performance in Malaysia. *International Journal Academic Research in Business and Social Sciences*, 10(8), 772-787.
- Ali, I., Khan, M. M., Shakeel, S., & Mujtaba, B. G. (2022). Impact of psychological capital on the performance of public hospital nurses: The mediated role of job embeddedness. *Public organisation Review*, 22(1), 135-154.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of managerial psychology*, 22(3), 309-328.
- Bandura, A. (1997). Self-efficacy: The exercise of control. Freeman.
- Barak, G., Carroll, M. R., & Dean, A. (2022). The kids are alright: a new generation of educators. *Medical Science Educator*, 32(5), 1189-1194.
- Bauer, G. F., Hämmig, O., Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. *Bridging occupational, organisational and public health: A transdisciplinary approach*, 43-68.
- Beuren, I. M., dos Santos, V., & Theiss, V. (2022). organisational resilience, job satisfaction and business performance. *International Journal of Productivity and Performance Management*, 71(6), 2262-2279.
- Brunetto, Y., Saheli, N., Dick, T., & Nelson, S. (2022). Psychosocial safety climate, psychological capital, healthcare SLBs' well-being, and innovative behaviour during the COVID-19 pandemic. *Public Performance & Management Review*, 45(4), 751-772.
- Cai, W., Lysova, E. I., Bossink, B. A., Khapova, S. N., & Wang, W. (2019). Psychological capital and self-reported employee creativity: The moderating role of supervisor support and job characteristics. *Creativity and Innovation Management*, 28(1), 30-41.
- Cao, J., & Hamori, M. (2023). The impact of developmental job experience on job performance: The importance of team context. *Human Resource Management*.
- Carlomagno, L. L. L., Natividade, J. C., Oliveira, M. Z. D., & Hutz, C. S. (2014). Relationships between creativity, hope, optimism, and work performance. *Temas em Psicologia*, 22(2), 497-508.
- Carter, J. W., & Youssef-Morgan, C. M. (2019). The positive psychology of mentoring: A longitudinal analysis of psychological capital development and performance in a formal mentoring program. *Human Resource Development Quarterly*, 30(3), 383-405.
- Carter, W. R., Nesbit, P. L., Badham, R. J., Parker, S. K., & Sung, L. K. (2018). The effects of employee engagement and self-efficacy on job performance: a longitudinal field study. *The international journal of human resource management*, 29(17), 2483-2502.
- Carver, C. S., & Scheier, M. F. (2002). The hopeful optimist. *Psychological Inquiry*, 13, 288 – 290.
- Castro A.L.B. (2023). Psychological capital influences the intrinsic motivation for university students from northwestern Mexico [Capital psicológico que influye a la motivación intrínseca de universitarios del noroeste de México]. *Interdisciplinaria*, 40 (2), 169 - 180
- Chan, A. J., & Hooi, L. W. (2023). Rewards and recognition on employee motivation and employee performance: a study of a manufacturing company in Malaysia. *International Journal of Management Practice*, 16(3), 267-283.
- Choi, W., Noe, R., & Cho, Y. (2020). What is responsible for the psychological capital-job performance relationship? An examination of the role of informal learning and person-environment fit. *Journal of Managerial Psychology*, 35(1), 28-41.

- Corbeanu, A., & Iliescu, D. (2023). The link between work engagement and job performance. *Journal of Personnel Psychology*.
- Crane, M. (2021). The multisystem approach to resilience in the context of organisations. *Multisystemic Resilience. Adaptation and Transformation in Contexts of Change*, 455-476.
- Edgar, F., Zhang, J. A., & Blaker, N. M. (2021). The HPWS and AMO: A dynamic study of system- and individual-level effects. *International Journal of Manpower*, 42(5), 794-809.
- Feng, G. (2020). Influence of psychological capital on the professional features and job performance of financial personnel. *Revista Argentina de Clínica Psicológica*, 29(1), 769.
- Georgiou, K., Nikolaou, I., & Turban, D. B. (2021). The impact of a training intervention developing psychological capital on job search success. *Journal of Career Development*, 48(4), 369-384.
- Goswami, M., & Goswami, A. K. (2023). A comprehensive examination of psychological capital research using bibliometric, TCCM, and content analysis. *Benchmarking: An International Journal*, 30(5), 1588-1622.
- Guillén, L. (2021). When (and why) job self-efficacy does not promote career success: The roles of resilience and organisational prototypicality. *human relations*, 74(8), 1267-1295.
- Hadi, J.S. & Adriansyah, A., (2023). Effect of compensation, working condition, and burnout in turnover Intention: Palm Oil Plantation in East Kalimantan Indonesia Case. *INSIGHT Journal*, 10(1), 193-200.
- Harms, P. D., & Wood, D. (2016). Bouncing back to the future: A look at the road ahead for the assessment of resilience. *Industrial and Organisational Psychology*, 9(2), 436-442.
- Hassian, U. K., Samuel, R., & Norane, S. (2022). Impact on psychological capital and adaptive performance during pandemic: A study of Malaysia young professionals in Malaysia service sectors context.
- Hough, C., Sumlin, C., & Green, K. W. (2020). Impact of ethics, trust, and optimism on performance. *Management Research Review*, 43(9), 1135-1155.
- Hsu, S. H., Wang, Y. C., Chen, Y. F., & Dahlgaard-Park, S. M. (2014). Building business excellence through psychological capital. *Total Quality Management & Business Excellence*, 25(11-12), 1210-1223.
- Ishak, M. A. H., Thani, A. K. A., Min, N. M. F. N., & Sakarji, S. R. (2022). The influence of work from home on job performance among academicians in Kelantan, Malaysia: Mediating role of employee work motivation. *Sciences*, 12(3), 104-115.
- Jensen, S. M., Luthans, K. W., Lebsack, S. A., & Lebsack, R. R. (2007). Optimism and employee performance in the banking industry. *Journal of Applied Management and Entrepreneurship*, 12(3), 57.
- Jiony, M. M., Lew, T. Y., Gom, D., Tanakinjal, G. H., & Sondoh Jr, S. (2021). Influence of cultural intelligence and psychological capital on service quality: A study of the hotel industry in Sabah, Malaysia. *Sustainability*, 13(19), 10809.
- Kappagoda, U. W. M. R., Othman, P., Zainul, H., & Alwis, G. (2014). The impact of psychological capital on job performance: Development of a conceptual framework.
- Kenneally, C. (2020). *The effects of optimism, transformational leadership, and work engagement on work outcomes: A moderated mediation model* [Doctoral dissertation] Old Dominion University.
- Kim, Y. (2020). organisational resilience and employee work-role performance after a crisis: exploring the effects of organisational resilience on internal crisis communication. *Journal of Public Relations Research*, 32(1-2), 47-75.
- Kim, D., Shin, J., Seo, M. G., & Sung, M. J. (2021). Enjoy the pain that you cannot avoid: Investigate the relationship between developmental job experience and employees' innovative behaviour. *Journal of Business Research*, 126, 363-375.

- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., de Vet, H. C., & van der Beek, A. J. (2014). Measuring individual work performance: Identifying and selecting indicators. *Work*, 48(2), 229-238.
- Kryshtanovych, M., Akimova, L., Akimov, O., Parkhomenko-Kutsevil, O., & Omarov, A. (2022). Features of creative burnout among educational workers in the public administration system. *Creativity Studies*, 15(1), 116-129.
- Landy, F., Zedeck, S., & Cleveland, J. (Eds.). (2017). *Performance measurement and theory*. Taylor & Francis.
- Leslie, B., Anderson, C., Bickham, C., Horman, J., Overly, A., Gentry, C., ... & King, J. (2021). Generation Z perceptions of a positive workplace environment. *Employee Responsibilities and Rights Journal*, 33, 171-187.
- Lim, C. T., & Ahmad, N. (2021). The relationship between human resource management practices and employee performance. *Research in Management of Technology and Business*, 2(1), 123-136.
- Lin, H., Cox Jr, R. B., Sahbaz, S., Washburn, I. J., Larzelere, R. E., & Greder, K. A. (2023). Hope for Latino immigrant youth: A longitudinal test of Snyder's Children's Hope Scale. *Family Relations*, 72(3), 697-718.
- Lin, X. S., Qian, J., Li, M., & Chen, Z. X. (2018). How does growth need strength to influence employee outcomes? The roles of hope, leadership, and cultural value. *The International Journal of Human Resource Management*, 29(17), 2524-2551.
- Lowe, J. B., Barry, E. S., & Grunberg, N. E. (2020). Improving Leader effectiveness across multi-generational workforces. *Journal of Leadership Studies*, 14(1), 46-52.
- Luthans, F. (2002a). Positive organisational behavior: Developing and managing psychological strengths. *Academy of Management Executive*, 16(1), 57-75.
- Luthans, F. (2002b). The need for and meaning of positive organisational behaviour. *Journal of Organisational Behavior*, 23(6), 695-706.
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press.
- Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. Oxford University Press. <https://doi.org/10.1002/smi.2623>
- Lyons, P. R., & Bandura, R. P. (2018). Self-efficacy measures may enhance your recruitment and placement efforts. *Human Resource Management International Digest*, 26(3), 35-37.
- Lyons, S., & Kuron, L. (2014). Generational differences in the workplace: A review of the evidence and directions for future research. *Journal of organisational Behavior*, 35(S1), S139-S157.
- Mannheim, K. (1952). The problem of generations. In Kecskemeti, Paul (ed.). *Essays on the Sociology of Knowledge: Collected Works, Volume 5*. Routledge.
- McKee-Ryan, F. M. (2021). Coming of age in a global pandemic: HRM perspectives on generation Z's workforce entry. In *Research in personnel and human resources management*, 39, 99-128).
- Millová, K., Malatincová, T., & Blatný, M. (2021). Intergenerational transmission of generativity and stagnation within families in a society after a macro social change: A two-generation study. *Current Psychology*, 1-15.
- Mishra, U. S., Patnaik, S., & Mishra, B. B. (2016). Role of hope in job satisfaction and stress. *International Business Management*, 10(9), 1729-1736.
- Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (2014). A theory of individual differences in task and contextual performance. In *organisational Citizenship Behavior and Contextual Performance*. Psychology Press.
- Ngan, H. F. B., & Tze-Ngai Vong, L. (2019). Hospitality employees' unrealistic optimism in promotion perception: myth or reality? *Journal of Human Resources in Hospitality & Tourism*, 18(2), 172-193.

- OECD (2023), *OECD Compendium of Productivity Indicators 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/74623e5b-en>.
- Othman, N. (2021). Psychological capital as a thrust to innovative personality: A focus on education. *Journal of Science, Technology and Innovation Policy*, 7(1), 27-33.
- Palenzuela, P., Delgado, N., & Rodríguez, J. A. (2019). Exploring the relationship between contextual performance and burnout in healthcare professionals. *Revista de Psicología del Trabajo y de las Organizaciones*, 35(2), 115-121.
- Reichard, R. J., Avey, J. B., Lopez, S., & Dollwet, M. (2013). Having the will and finding the way: A review and meta-analysis of hope at work. *The Journal of Positive Psychology*, 8(4), 292-304.
- Setyawati, N., Giningroem, D. & Rohaeni, H. (2023). Discipline, motivation, and job satisfaction on employee performance at pt xx. *INSIGHT Journal*, 10(1), 59-73.
- Schaufeli, W., & Taris, T. (2013). The job demands-resources model: A critical review. *Gedrag & Organisatie*, 26(2).
- Schieman, S. (2013). Job-related resources and the pressures of working life. *Social Science Research*, 42(2), 271-282.
- Scholz, C. (2019). *The generations Z in Europe – an introduction in Generations Z in Europe* (eds C. Scholz & A. Rennig), 3–31.
- Schroth, H. (2019). Are you ready for Gen Z in the workplace?. *California Management Review*, 61(3), 5-18.
- Seligman, M. (1998). *Learned optimism*. Pocket Books.
- Shahzad, M. B. (2022). Role of psychological capital in the curvilinear association between job autonomy and job performance. *Performance Improvement Quarterly*, 34(4), 603-625.
- Shatté, A., Perlman, A., Smith, B., & Lynch, W. D. (2017). The positive effect of resilience on stress and business outcomes in difficult work environments. *Journal of occupational and environmental medicine*, 59(2), 135.
- Snyder, C.R. (2000). The past and possible futures of hope. *Journal of Social and Clinical Psychology*, 19(11), 28.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al., (1991). The will and the ways: Development and validation of an individual differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Snyder, N. F. R., S. C. Derrickson, S. R. Beissinger, J. W. Wiley, T. B. Smith, W. D. Toone, & B. Miller. (1996). Limitations of captive breeding in endangered species recovery. *Conservation Biology*, 10, 338-348.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124, 240-261.
- Stassen, L., Anseel, F., & Levecque, K. (2016). Generational differences in the workplace: A systematic analysis of a myth. *Gedrag & organisatie*, 29(1), 44-76.
- Stewart, M., Reid, G., & Mangham, C. (1997). Fostering children's resilience. *Journal of Pediatric Nursing*, 12, 21-31.
- Syed, M., & Nguyen, P. L. L. (2021). A cultural evolutionary behavior genetics will need a more sophisticated conceptualization of cultural traits. <https://osf.io/preprints/psyarxiv/4egba>.
- Tang, F. (2019). A critical review of research on the work-related attitudes of Generation Z in China. *Social Psychology & Society*, 10(2).
- The Deloitte Global 2023 Gen Z and Millennial Survey. <https://www2.deloitte.com/content/dam/Deloitte/my/Documents/about-deloitte/my-about-2023-deloitte-malaysia-gen-z-and-millennial-survey-report.pdf> on 18 January 2024.
- Tho, N. D. (2022). Employees' psychological capital and innovation outputs: the roles of job crafting and proactive personality. *Innovation*, 24(2), 333-353.

- Wang, Y., Lin, J., Osman, Z., Farooq, M., & Raju, V. (2021). Transformational leadership and employee performance in international commercial banking industry in Malaysia: The Role of self-efficacy as a mediator under BRI. *Journal of Chinese Human Resources Management*, 25-36.
- Wandeler, C. A., Marques, S. C., & Lopez, S. J. (2016). Hope at work. *The Wiley Blackwell Handbook of the Psychology of Positivity and Strengths-Based Approaches at Work*, 48-59.
- Weiss, S. S., Weiss, L., Clayton, R., Ruble, M. J., & Cole, J. D. (2023). The relationship between pharmacist resilience, burnout, and job performance. *Journal of Pharmacy Practice*.
- Wu, W. & Nguyen, K. (2019) The antecedents and consequences of psychological capital: a meta-analytic approach. *Leadership and organisation Development Journal*, 40(4), 435–456. [https://doi.org/ 10.1108/LODJ-06-2018-0233](https://doi.org/10.1108/LODJ-06-2018-0233).
- Xin, Z. (2022). The influence of work environment on employee's psychological relationship: a case study of Japanese literature. *Occupational Therapy International*.
- Youssef, C. M., & Luthans, F. (2005). Resilience development of organisations, leaders and employees: Multi-level theory building for sustained performance. In W. Gardner, B. Avolio, & F. Walumbwa (Eds.), *Authentic leadership theory and practice: Origins, effects, and development* (3,303-343). Elsevier.
- Zainuddin, P. F. A., Noor, N. M., Kadri, A., & Maimon, N. Z. (2021). Identifying factors of job stress that affect job performance among employees in Sarawak Corporation, Malaysia. *Journal of Academic Research in Business and Social Sciences*, 11(2), 1283-1293.

EXPLORING GROUP WORK DURING MANDARIN CLASSES USING TUCKMAN'S MODEL

On Yee Min¹, Lim Siew Mei^{2*}, Teo Ai Min³, Ho Wee Chee⁴

^{1,2,3,4} Academy of Language Studies, Universiti Teknologi MARA Shah Alam 40450 Shah Alam,
Selangor Darul Ehsan, Malaysia

*Corresponding Author

Email: ¹onyeemin@uitm.edu.my, ²lmsiewmei@uitm.edu.my, ³teoaimin@uitm.edu.my,
⁴howeechee@uitm.edu.my

Received: 10th January 2024

Accepted: 3rd November 2023

ABSTRACT

Group work is commonly used to promote teamwork, problem-solving, and exchanging ideas and perspectives among group members. To explore how Malaysian students perceive the various stages of group work and investigate the relationship between all stages, quantitative research was conducted on 165 university students taking Mandarin as a Foreign Language course. The Tuckman's Model was implemented in this study. The study indicates that learners at the forming stage are more likely to assign specific roles to team members and try to define the goal and what tasks need to be accomplished. During the storming stage, where discussions take place, the findings show that learners agree with the statement that the team leader should be the one who tries to contribute to the task at hand. The norming stage demonstrates that learners tend to achieve harmony by avoiding conflict and accepting each other as team members. During the performing stage, learners agree that they got a lot of work done, they appear to perceive the interactions in the group as positive and cooperative, and they fully accept each other's strengths and weaknesses. The findings also indicate that various stages of group work are linked to one another in a constructive progression, revealing that these stages are not distinct from one another but rather interconnected in a positive progression. It can be helpful to gain awareness of these linkages to guide a group effectively.

Keywords: Group Work, Interactions, Learn Mandarin, Learners' Perceptions, Tuckman's Model

1.0 INTRODUCTION

1.1 Background of Study

Group work is a broad term that encompasses many forms; at its core, it refers to a group of people working interdependently together towards a shared goal (Farivar, 1994). Group work is commonly used to promote teamwork, problem-solving, and the exchange of ideas and perspectives among group members, and it has been implemented in different educational systems all over the globe.

Multiple research findings indicate that group work can be an effective learning strategy and an essential instrument for individual development and growth. Group work is a key feature of every classroom (Thornton, 2004). Group work can offer a concrete opportunity to build knowledge cooperatively, with the potential for the student to relate to knowledge in various ways (Casanova, 2022). The specific methods of group work are diverse, but they

believe that student collaboration enhances learning (Postholm, 2008). In general, group work can support individuals in multiple ways with their learning and developing important abilities.

To develop and enhance students' fundamental competencies in areas like teamwork and collaboration, communication skills, critical thinking skills, problem-solving abilities, and leadership abilities, group work has been widely used in Malaysian educational institutions, especially at the university level. Students who participate in this form of active learning are inspired and motivated to take responsibility for their education. It not only helps students strengthen their essential abilities but also builds intercultural awareness and equips them to enter the workforce soon. To investigate how Malaysian students perceive the various stages of group work and group interactions among students learning Mandarin as a foreign language, a research study was conducted on a group of university students from different majors at Universiti Teknologi MARA Shah Alam who were taking Mandarin as a Foreign Language course, and Tuckman's Model was implemented in this study.

1.2 Statement of Problem

Since American educational philosopher Dewey J. emphasised the concept of reflective thinking from a teaching perspective, many scholars have researched teaching (Yang, 2023). Yang (2023) proposed that language is 'learned,' not 'taught.' This idea is thought-provoking. The method of teaching Mandarin as a foreign language has gradually transitioned from conventional teaching to non-traditional teaching in response to changing times, social development, and progress. In conventional teaching methods, the instructor is at the centre of instructional activities (teaching-centred), and students are passive, not actively engaging in critical thinking and proactive learning. Passive learning refers to the conventional method, where learners have less participation in their learning process, relying mostly on instructors (Zaharuddin et al., 2022).

However, the new educational model advocates for instructors as facilitators who inspire students to take the initiative in learning, thereby enhancing students' learning abilities and outcomes. Group cooperation and interactive learning models can effectively improve students' engagement. Group cooperative learning is a teaching approach that takes cooperative learning groups as the basic form, systematically using the interaction between teaching dynamic factors to promote student learning, using the team's performance as the evaluation standard, and jointly achieving teaching goals (Meng et al., 2020).

Zahra (2014) mentioned that team-based learning achieves higher levels of achievement and effectiveness compared to passive learning methods. This passive learning environment fails to promote the creation of knowledge and contradicts Vygotsky's (1978) constructivist learning theory, which posits that knowledge is formed through active student interaction (Sari et al., 2021). It's widely accepted that collaborative learning is facilitated through group work, where students engage in meaningful discussions concerning the assigned task (Summers & Volet, 2010). Group work is one of the strategies for teaching and learning. Students can share their ideas, knowledge, and culture when they are grouped. When students with different abilities and knowledge interact in a group, it facilitates the mutual exchange of ideas and knowledge enhancement. Moreover, the benefits of collaborative work extend beyond the confines of the classroom. Through participation in group work, students can hone various soft skills such as communication, leadership, and teamwork, which will serve them well in the workplace and contribute to the success of their organisations (Kamaludin et al., 2022).

Team interactions can encourage team members to understand each other and build trust, which contributes to better teamwork. Only through the establishment of effective teamwork can common goals be achieved. In group work interactions, conflicts, arguments, mistrust, and differences of opinion may arise among team members. However, the forming, storming, norming, and performing stages in the Tuckman model describe the various

processes that team members may go through in group collaboration. Collaboration and interaction within a group can be both challenging and meaningful.

Current research on this subject is limited, indicating the necessity for additional investigation. We extend previous research by using Tuckman's model. Previous studies have primarily focused on examining teaching methods and the benefits of group work for students' learning. However, there is currently a lack of research on group interactions in learning Mandarin as a foreign language using Tuckman's model. Therefore, this study aims to investigate the application of the Tuckman model to students' learning of Chinese as a foreign language. This study is being conducted to answer the following questions: How do learners recognise the four stages of Tuckman's model when learning Mandarin as a foreign language?

1.3 Objective of the Study and Research Questions

This study is done to explore group interactions. Specifically, this study is done to answer the following questions:

- How do learners perceive the forming stage in group work when learning Mandarin as a foreign language?
- How do learners perceive the storming stage in group work when learning Mandarin as a foreign language?
- How do learners perceive the norming stage in group work when learning Mandarin as a foreign language?
- How do learners perceive the performing stage in group work when learning Mandarin as a foreign language?
- Is there a relationship between all stages of group work?

2.0 LITERATURE REVIEW

2.1 Group Work in Language Classroom

In foreign language classrooms, group work plays a pivotal role in enhancing language acquisition and promoting effective interactions among students. One of the prominent models used to understand group dynamics is Tuckman's stages of group development, which consists of four stages: forming, storming, norming, and performing (Tuckman, 1965). During the formation stage, students get acquainted with their group members and establish initial connections. Following this is the storming stage, where disagreements and conflicts may arise as students work together on language-related tasks. The norming stage marks the resolution of conflicts and the development of group cohesion, leading to a more harmonious working environment. Finally, in the performing stage, students work efficiently as a team, demonstrating their language proficiency through collaborative projects, discussions, and presentations.

Group work in foreign language classrooms offers diverse benefits. Firstly, it provides students with opportunities to practice speaking and listening skills in authentic contexts, enabling them to improve their fluency and pronunciation (Borg, 2011). Secondly, it fosters intercultural competence by encouraging interaction among students from diverse cultural backgrounds, promoting understanding and tolerance (Fantini, 2009). Additionally, group work enhances students' confidence in using a foreign language, as they receive immediate feedback from peers and can learn from their mistakes in a supportive environment (Slavin, 1995). Moreover, collaborative activities encourage active engagement, critical thinking, and problem-solving skills, contributing to a more holistic language learning experience (Johnson & Johnson, 1999).

However, group work also has its limitations. One major challenge is the unequal participation of group members, where some students may dominate discussions while others

remain passive (Kagan, 1994). This can hinder the learning experience for those who are less assertive or proficient in the foreign language. Additionally, conflicts that arise during the storming stage can disrupt the learning process if not managed effectively, leading to a negative classroom atmosphere (Dörnyei & Murphey, 2003). Furthermore, assessing individual contributions in group work can be complex, as it is challenging to determine the exact extent of each student's participation in collaborative tasks (Brindley, 1995).

In conclusion, group work in foreign language classrooms, guided by Tuckman's model, offers numerous benefits, such as improved language proficiency, intercultural competence, confidence, and critical thinking skills. However, educators need to be mindful of the potential limitations, such as unequal participation and conflict management, to create a positive and effective learning environment for all students.

2.2 Past Studies on Group Work

Research studies using Tuckman's group work model in foreign language learning have provided valuable insights into the effectiveness of collaborative learning environments. Wang and Li (2019) conducted a study that looked at the use of Tuckman's stages in college-level Mandarin language classrooms. The study involved 180 students grouped into teams, and their interactions were observed over a semester. The researchers used classroom observations, student feedback surveys, and final exam scores as research instruments. The findings revealed that groups that successfully navigated through all stages of Tuckman's model exhibited higher levels of Mandarin language proficiency. Specifically, the norming stage played a crucial role in developing a supportive and cooperative group atmosphere, leading to improved speaking and listening skills among students. The implications of this study underscored the importance of promoting positive group dynamics to enhance Mandarin language learning experiences in college classrooms (Wang & Li, 2019).

150 college-level English as a Foreign Language (EFL) students participated in another study (Lee & Kim, 2018). These students were organised into groups and took part in speaking activities following Tuckman's stages. The research used observations, student reflections, and post-activity surveys as research instruments. The findings revealed that students who experienced effective group development stages exhibited improved speaking skills, demonstrating higher levels of fluency and accuracy. The study highlighted the role of the norming stage in promoting a positive group atmosphere, allowing students to express themselves comfortably, and leading to enhanced language proficiency. This research emphasised the importance of carefully structuring group activities to ensure students' progress through Tuckman's stages, emphasising the creation of a supportive and collaborative learning environment (Lee & Kim, 2018).

Research by Smith and Johnson (2017) focused on integrating Tuckman's stages into a high school Spanish classroom. The research involved 120 students, who were grouped into teams and engaged in various language tasks. The instruments used for assessment included pre- and post-task questionnaires and language proficiency tests. The findings showed that students who progressed through all stages of group development showed significantly higher language proficiency scores compared to those in groups that struggled with the storming stage. The study underscored the importance of guiding students through the entire Tuckman's model, emphasising the significance of conflict resolution and group cohesion in enhancing language learning outcomes (Smith & Johnson, 2017).

In summary, these studies highlight the advantages of interactions in group work when learning a foreign language. They offer valuable perspectives for language instructors aiming to improve language skills through collaborative activities in diverse foreign language contexts.

2.3 Conceptual Framework

Figure 1 shows the conceptual framework of the study. This study looks at how learners view group interactions. Group interactions benefit the team members in many ways. Members gain input to solve problems assigned to the group (Rahmat, 2020). The interactions also lead to the generation of creative ideas. According to Tuckman (1965), during group work, team members go through four stages. The first stage is forming, where the team members begin the interaction with goals for the team. The second stage is storming, where team members undergo conflicts and disagreements. The next stage is norming, where team members stop disagreeing with one another to refocus on the original team's goal. The last stage is performing, where the team completes the group work.

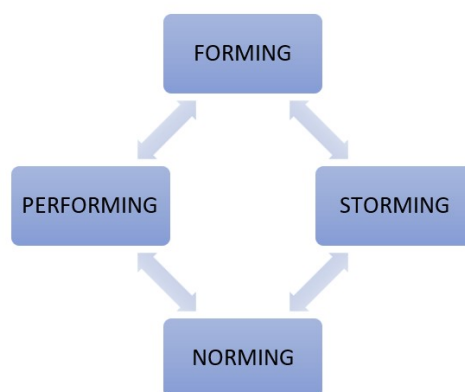


Fig. 1 Conceptual Framework of the Study Interactions in Group Work

3.0 METHODOLOGY

This quantitative study is done to explore learners' perceptions of interactions in group work activities. A purposive sample of 165 participants responded to the survey. The instrument used is a 5-likert-scale survey rooted in Tuckman (1965) to reveal the variables in Table 1 below. The survey has 4 sections. Section A has items on the demographic profile. Section B has 7 items on forming. Section C has 6 items on storming. Section D has 8 items on norming, and Section E has 8 items on performing.

Table 1. Distribution of Items in the Survey

Section	Stage (Tuckman, 1965)	Items
B	FORMING	7
C	STORMING	6
D	NORMING	8
E	PERFORMING	8
		29

Table 2. Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.890	29

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .890, thus revealing the good reliability of the instrument chosen or used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

4.0 FINDINGS

4.1 Findings for Demographic Profile

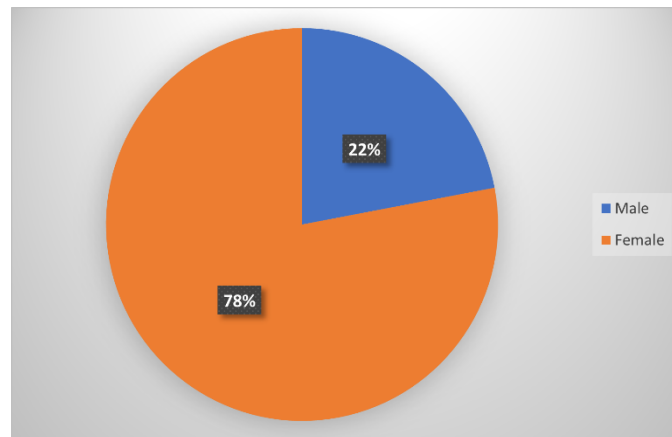


Fig. 2 Percentage of Gender

Figure 2 presents a clear outline of gender distribution, showing that 22% of the group comprises males, while the majority, 78%, consists of females. Essentially, this illustrates a higher proportion of females compared to males in the group.

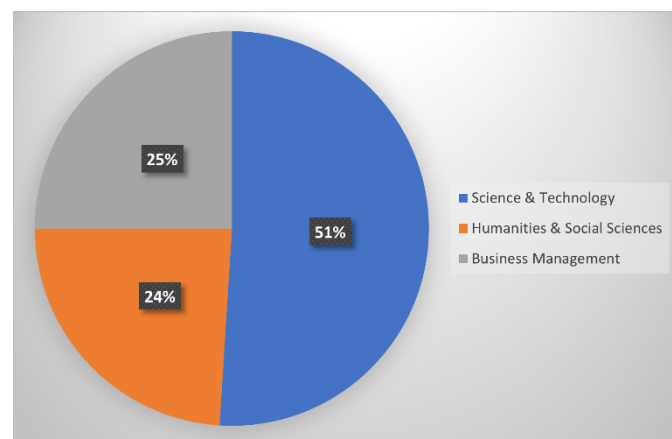


Fig. 3 Percentage for Discipline

Figure 3 displays the distribution of students across various disciplines. Out of 165 respondents, 51% belong to the science and technology field, 25% are in business management, and the remaining 24% are in the humanities and social sciences. This information offers a comprehensive insight into the academic backgrounds of the students involved in the study.

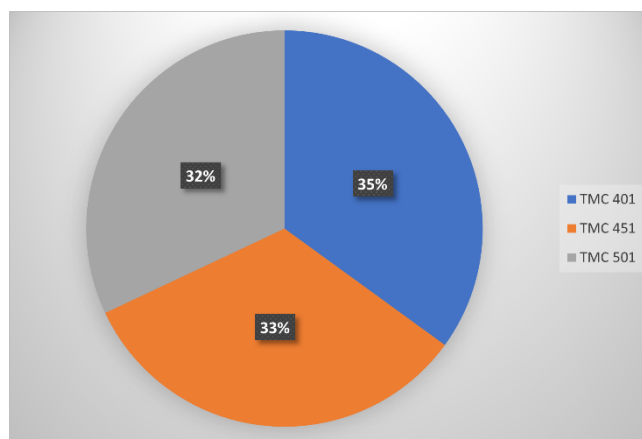


Fig. 4 Percentage for Mandarin Course

As per the data in Figure 4, out of the 165 respondents who took part in the survey, 25% are enrolled in Mandarin Level 1 (TMC401), 33% are in Mandarin Level 2 (TMC451), and 32% are pursuing Mandarin Level 3 (TMC501).

4.2 Findings for Forming Stage

This section presents data to answer Research Question 1: How do learners perceive the forming stage in group work when learning Mandarin as a foreign language?

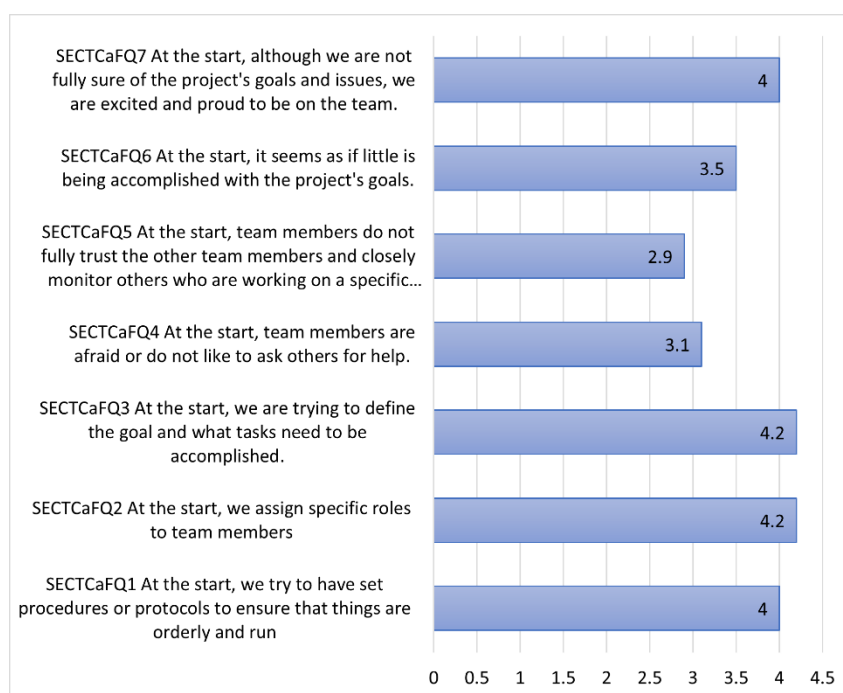


Fig. 5 Mean for Forming Stage

Figure 5 presents the mean score for the forming stage. The data indicates that there are two statements with the highest mean score, which is 4.2 at the forming stage, which corresponds to the respondents being assigned to specific roles and trying to define their goals and tasks to accomplish at the beginning of the stage. The second-highest mean of the study reached a value of 4. The respondents try to have set procedures or protocols to ensure that things are orderly and run smoothly, although they are not fully sure of the project's goals and issues. Meanwhile, they are excited and proud to be on the team. Nevertheless, respondents disagree that they do not fully trust the other team members and closely monitor each other while working on a specific task, with the statement hitting the lowest mean value of 2.9.

4.3 Findings for Storming Stage

This section presents data to answer Research Question 2: How do learners perceive the storming stage in group work when learning Mandarin as a foreign language?

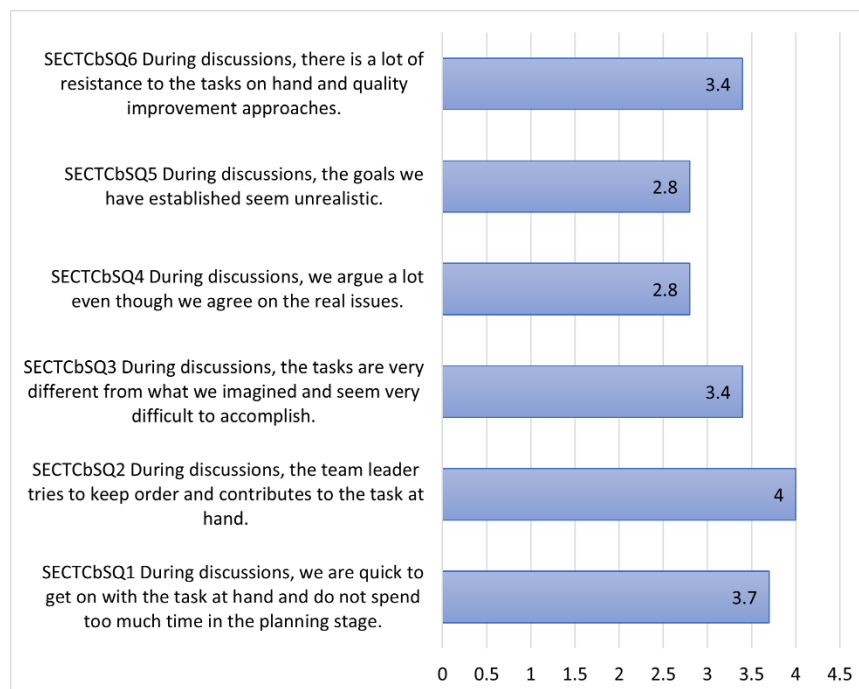


Fig. 6 Mean for Storming Stage

Figure 6 presents the mean score for the storming stage. The results show that respondents' top choice ($M = 4$) is the team leader who tries to keep order and contributes to the task at hand. The survey findings reveal that respondents prefer to get on with the task at hand quickly and do not spend too much time in the planning stage ($M = 3.7$). In the newly formed group, respondents disagree with the statements that they argue a lot even though they agree on the real issues ($M = 2.8$), and the goals they have established seem unrealistic ($M = 2.8$).

4.4 Findings for Norming Stage

This section presents data to answer Research Question 3: How do learners perceive the norming stage in group work when learning Mandarin as a foreign language?

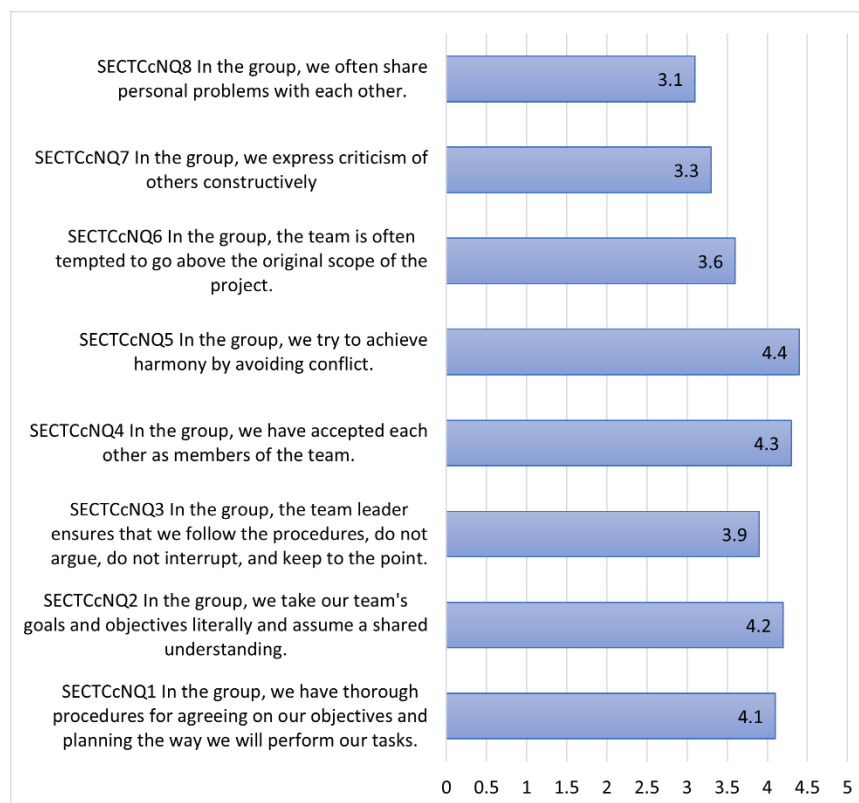


Fig. 7 Mean for Norming Stage

Figure 7 shows the mean score of the norming stage. The data says that most respondents agreed that in the group, they try to achieve harmony by avoiding conflict ($M = 4.4$). They have also accepted each other as members of the team. ($M = 4.3$). However, they are less inclined to share their personal issues with each other in the group ($M = 3.1$).

4.5 Findings for Performing Stage

This section presents data to answer Research Question 4: How do learners perceive the performing stage in group work when learning Mandarin as a foreign language?



Fig. 8 Mean for Performing Stage

Figure 8 illustrates the mean score for the performing stage. The data reveals that respondents strongly agreed that they got a lot of work done at the end ($M = 4.5$). Additionally, two statements, scoring 4.4, show that they enjoy working together, have a fun and productive time, and fully accept each other's strengths and weaknesses. However, the statement with the lowest mean score was "In the end, we do not have fixed procedures; we make them up as the task or project progresses." ($M = 3.8$).

4.6 Findings for the Relationship between

This section presents data to answer Research Question 5: Is there a relationship between all stages of group work?

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social, and affective strategies, data is analysed using SPSS for correlations. Results are presented separately in Tables 3, 4, 5, and 6 below.

Table 3. Correlation between Forming and Storming
Correlations

		FORMING	STORMING
FORMING	Pearson Correlation	1	.505**
	Sig. (2-tailed)		<.001
	N	165	165
STORMING	Pearson Correlation	.505**	1
	Sig. (2-tailed)	<.001	
	N	165	165

** . Correlation is significant at the 0.01 level (2-...

Table 3 shows there is an association between forming and storming. Correlation analysis shows that there is a highly significant association between forming and storming ($r = .505^{**}$) and ($p = .000$). According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be in the range of 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between forming and storming.

Table 4. Correlation between Storming and Norming
Correlations

		STORMING	NORMING
STORMING	Pearson Correlation	1	.461**
	Sig. (2-tailed)		<.001
	N	165	165
NORMING	Pearson Correlation	.461**	1
	Sig. (2-tailed)	<.001	
	N	165	165

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows there is an association between storming and norming. Correlation analysis shows that there is a moderately significant association between storming and norming ($r = .461^{**}$) and ($p = .000$). According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be in the range of 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a moderate positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between storming and norming.

Table 5. Correlation between Norming and Performing
Correlations

		NORMING	PERFORMING
NORMING	Pearson Correlation	1	.609 ^{**}
	Sig. (2-tailed)		<.001
	N	165	165
PERFORMING	Pearson Correlation	.609 ^{**}	1
	Sig. (2-tailed)	<.001	
	N	165	165

^{**}. Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows there is an association between norming and performing. Correlation analysis shows that there is a highly significant association between norming and performing ($r = .609^{**}$) and ($p = .000$). According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be in the range of 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between norming and performing.

Table 6. Correlation between Performing and Forming
Correlations

		PERFORMING	FORMING
PERFORMING	Pearson Correlation	1	.413 ^{**}
	Sig. (2-tailed)		<.001
	N	165	165
FORMING	Pearson Correlation	.413 ^{**}	1
	Sig. (2-tailed)	<.001	
	N	165	165

^{**}. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows there is an association between performing and norming. Correlation analysis shows that there is a moderately significant association between performing and norming ($r = .413^{**}$) and ($p = .000$). According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. A weak positive

correlation would be in the range of 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a moderate positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between performing and norming.

5.0 CONCLUSION

The study indicates that learners at the forming stage are more likely to assign specific roles to team members and try to define the goal and what tasks need to be accomplished at this beginning stage. During the forming stage, although the learners are not fully sure of the project's goals and issues that might occur, they are excited and proud to be on the team, and they will try to have set procedures or protocols to ensure that things are orderly and run smoothly. Nevertheless, learners disagree that they do not fully trust the other team members and closely monitor each other while working on a specific task. Jaqua (2021) emphasises the importance of the forming stage in building trust, assigning appropriate tasks, and fostering motivation among team members because the forming stage is significant since it makes way for the smooth development of the following group stages. The forming stage is not the time to expect free and open discussions or to create a consensus, but fostering trust, encouraging relationship building, and clarifying purposes and expectations take precedence over making decisions or taking action (Johnson, 2010).

During the storming stage, where discussions take place, the finding shows that learners agree with the statement that the team leader should be the one who tries to keep order and contributes to the task at hand. Learners also prefer to get on with the task at hand quickly and not spend too much time in the planning stage. Learners disagree with the statements that they argue a lot, even though they agree on the real issues. They also do not think that the goals they have established seem unrealistic. Nevertheless, interstage awareness during group formation is crucial to ensuring that conversation in the storming stage may proceed smoothly and effectively. Similarly, research focuses on interstage awareness in group formation, particularly in educational contexts, and recommends strategies for leaders to reduce the negative effects of the storming phase on group dynamics (Lail, 2019).

The results of the norming stage demonstrate that learners tend to achieve harmony by avoiding conflict and accepting each other as members of the team in the group. However, the result also shows that learners would not often share personal problems, even if the connection and understanding were starting to form during this stage. Learners tend to avoid conflict and accept team members to facilitate group work. They commonly adopt ignoring or avoiding conflict as a strategy and then try to resolve it through discussion (Abbasi, 2017).

While during the performing stage, learners agree that they got a lot of work done at this stage. However, learners appear to perceive the interactions in the group as positive and cooperative. They agree that they fully accept each other's strengths and weaknesses at this stage. They also enjoy working together and having a fun and productive time while completing the group work. Learners value the social interactions and friendships that develop through group work (Vera, 2020). The learners will be most productive when working on a project in collaboration in small groups due to harmonious relations and mutual solidarity (Tolstoukhova, 2023). At this stage, learners disagree with the claim that they do not have fixed procedures; they make them up as the task or project progresses.

Lastly, the result reveals strong positive relationships between all stages of group work. The fact that various stages of group work are linked to one another in a constructive progression reveals that these stages are not distinct from one another but rather interconnected in a positive progression. It can be helpful to gain awareness of these linkages to guide a group effectively.

6.0 PEDAGOGICAL IMPLICATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Group work is a widely adopted pedagogical approach in the field of education. It encompasses complicated social interactions that include various degrees of involvement. The investigation of learners' perspectives on group interactions and their comprehension of the relationships between various stages of group work will provide valuable insights into individuals' collaborative processes, knowledge acquisition, and problem-solving strategies. By researching group interactions, it is possible to enhance the efficacy, productivity, and collaboration of groups.

The value of group work in the field of education has been widely recognised, and there is a continuous development of research endeavours targeted at enhancing its educational worth and effectiveness. The utilisation of group work as a pedagogical strategy in higher education demonstrates significant potential for enhancing the learning experience. Future research in the field of group work may consider exploring strategies for assessing individual contributions within a group. Additionally, conducting comprehensive evaluations of group processes, such as decision-making and conflict resolution, could provide valuable insights into how these activities contribute to overall group interactions.

Besides that, future studies might also investigate ways that educators can strengthen their facilitation skills and establish an environment that is conducive to learning. Also, there is a need to investigate how group work can be effectively implemented in online and hybrid learning environments, as well as the long-term effects of group work on the professional and personal development of students. Exploring these areas of research can help us understand how group work influences learning and enhances its efficacy for the benefit of learners and educators overall.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. On Yee Min carried out the fieldwork and data collection. Lim Siew Mei wrote the research methodology, did the data entry, and overlooked the write-up of the whole article. Teo Ai Min prepared the literature review. Teo Ai Min and Ho Wee Chee carried out the statistical analysis and interpreted the results. All authors reviewed the results and approved the final version of the article.

ACKNOWLEDGEMENTS

The research study was conducted with the guidance of Associate Professor Dr. Noor Hanim Rahmat.

REFERENCES

- Abbasi, N., Mills, A., & Tucker, R. (2017). Conflict resolution in student teams: an exploration in the context of design education. In R. Tucker (Ed.), *Collaboration and Student Engagement in Design Education*, 105-124. <https://doi.org/10.4018/978-1-5225-0726-0.ch005>.
- Borg, S. (2011). The impact of in-service teacher education on language teachers' beliefs. *System*, 39, 370-380. <https://doi.org/10.1016/J.SYSTEM.2011.07.009>
- Brindley, G. (1995). Assessing group work. *Assessment & Evaluation in Higher Education*, 20(3), 289-299.
- Casanova, M. (2022). Group work as a learning strategy in higher education. *Global Journal of Human-Social Science*. <https://doi.org/10.34257/gjhssgvol22is5pg9>
- Dörnyei, Z., & Murphey, T. (2003). Group dynamics in the language classroom. *Language Teaching*, 36(1), 1-20.

- Fantini, A. E. (2009). Exploring and Assessing Intercultural Competence. https://www.sietarusa.org/resources/Documents/SEU_Programs/Session_2_-_Fantastic.pdf.
- Jackson, S.L. (2015) *Research Methods and Statistics-A Critical Thinking Approach* (5th ed.). Cengage Learning.
- Jafari, Z. (2014). A comparison of conventional lecture and team-based learning methods in terms of student learning and teaching satisfaction. *Medical Journal of the Islamic Republic of Iran*, 28, 5 - 5.
- Lail, J. (2019). Between forming and storming: Interstage awareness in group formation. *The Academy of Educational Leadership Journal*, 23.
- Jaqua, E.E., & Jaqua, T. (2021). Managing groups and teams. *International Journal of Research Studies in Medical and Health Sciences* 6(4), 6-8. <https://doi.org/10.22259/ijrsmhs.0604002>.
- Johnson, D., & Johnson, R. (1999). Making cooperative learning work. *Theory Into Practice*, 38, 67-73. <https://doi.org/10.1080/00405849909543834>.
- Johnson, P. (2010). Four steps to effective collaboration.
- Kagan, S. (1994). *Cooperative learning*. Kagan Cooperative Learning.
- Kamaludin, P. N. H. binti, Yusof, S. binti M., Nawi, S. binti M., Nordin, N. A. binti, Zabidin, N. binti, & Sain, N. (2022). Group online engagement: An analysis from Tuckman Model. *International Journal of Academic Research in Business and Social Sciences*, 12(9), 931-949. <https://doi.org/10.6007/IJARBS/v12-i9/14625>.
- Lee, H., & Kim, S. (2018). Fostering EFL speaking proficiency: An exploration of Tuckman's model in group activities. *TESOL Journal*, 9(3), 512-527.
- Md Sari, N., Yin Yin, K., & Zakariya, Z. (2021). The impact of google classroom-assisted collaborative learning approach on economics students' attitudes. *International Journal of Advanced Research in Education and Society*, 3(4), 21-37. <https://myjms.mohe.gov.my/index.php/ijares/article/view/16353>.
- Meng, Q. H., Huang, Y. Z., & Deng, L. Y. (2020). Effectively implement student group cooperative learning research. *Survey of Education*, 9(3).
- Postholm, May. (2008). Group work as a learning situation: A qualitative study in a university classroom. *Teachers and Teaching: theory and practice*. 14. 143-155. <https://doi.org/10.1080/13540600801965978>.
- Rahmat, N.H (2020) Conflict Resolution Strategies in Class Discussions. *International Journal of Education*, 2(3), 49-66. <https://doi.org/10.5296/ije.v12i3.16914>.
- Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice*. Allyn & Bacon.
- Sleeman, J., Lang, C., & Dakich, E. (2019). International students' transition to university: Connection and disconnection in online group work interactions. *Student Success*, 10(2), 35-45. <https://doi.org/10.5204/ssj.v10i2.1300>.
- Smith, A., & Johnson, B. (2017). Enhancing Spanish language learning through Tuckman's stages of group development: A classroom study. *Foreign Language Education Journal*, 15(2), 45-60.
- Summers, M., & Volet, S. (2010). Group work does not necessarily equal collaborative learning: evidence from observations and self-reports. *European Journal of Psychology of Education*, 25(4), 473-492. <https://doi.org/10.1007/s10212-010-0026-5>.
- Sydney H. Farivar & Noreen M. Webb (1994) Are Your students prepared for group work?, *Middle School Journal*, 25(3), 51-54. <https://doi.org/10.1080/00940771.1994.11494550>.
- Thornton, S. (2004). Turn your group work into great work. <https://doi.org/10.12968/FTOE.2004.4.2.17752>.
- Tolstoukhova, I., Kryucheva, Y., & Babina, A. (2023). Problems of interpersonal interaction in a students' group. *Nuances: Estudos sobre Educação*.
- Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63(6), 384-399. <https://doi.org/10.1037/h0022100>.
- Tuckman's Teamwork Survey (2016). Knowledge jump. <http://www.nwlink.com/~donclark/leader/teamsuv.html>.

- Wang, L., & Li, J. (2019). Enhancing Mandarin language proficiency through Tuckman's Group Work Model: A College Classroom Study. *Journal of Applied Linguistics*, 6(2), 45-60.
- Yang, S.H., Mao, L.Q. (2023). A Three-dimensional Study on teaching reflection of pre-service international Chinese teachers : Analysis of Stimulated recall report based on teaching video, *Education and Teaching Research*, 37(10), 81-93.
- Zaharuddin, A. M. B., Almuiddin, A., Ammar, A., & Rahmat, N. H. (2022). Exploring group dynamics in the Arabic classroom using Tuckman's Development. *International Journal of Academic Research in Business and Social Sciences*, 12(6), 1576–1599. <http://dx.doi.org/10.6007/IJARBS/v12-i6/13188>.

ANALYSIS ON THE SURVEY OF E-ZAKAT SYSTEM AMONG ZAKAT APPLICANTS OF UNIVERSITI TEKNOLOGI MARA (UiTM) JOHOR

Khadijah Amira Abdul Rashid¹, Mahasin Saja@Mearaj^{2*}, Ezril Hisham Mat Saat³

^{1,2}Academy of Contemporary Islamic Studies, Universiti Teknologi MARA Johor, Segamat Campus

³ Faculty of Electrical Engineering, Universiti Teknologi MARA Johor Pasir Gudang Campus

*Corresponding Author

Email : ¹amirarashid@uitm.edu.my, ²mahas220@uitm.edu.my, ³ezril@uitm.edu.my

Received: 30th November 2023

Accepted: 14th March 2024

ABSTRACT

Unit Zakat, Sedekah dan Wakaf (UZSW) is known as a zakat institution under Universiti Teknologi Mara (UiTM) Johor. There are various functions of this unit including managing zakat distribution fund according to the distribution management procedures that have been set. However, as the system is newly developed, it is certain that this system needs feedback from the users, especially from the zakat applicant. The purpose of this research is to study the effectiveness of the online zakat application system (e-ZAKAT) among zakat applicants consisting of UiTM Johor students. This research used quantitative method in the form of survey through Google Form application. The data were collected and analyzed using Statistical Packages of Social Science (SPSS). The results of the study showed that all the items had a high mean value. It means that most of the respondents chose agree and strongly agree that e-ZAKAT system is easier, beneficial and user-friendly.

Keywords: e-ZAKAT, Unit Zakat, Sedekah dan Wakaf (UZSW) and zakat applicants.

1.0 INTRODUCTION

Most of the public universities in Malaysia have their own zakat institution. As for Universiti Teknologi Mara (UiTM) Johor, zakat institution is known as Unit Zakat, Sedekah dan Wakaf (UZSW). According to UZSW (n.d), the main function of this unit is managing zakat distribution fund according to the distribution management procedures that have been set. Besides, it is to ensure the effectiveness of distribution management that has been planned and carried out. Most of the zakat distribution fund will be given to the zakat recipients consisting of qualified UiTM students. It is one of the approaches to assist them in minimizing financial strain in facing daily life as a student at the university.

Considering how advanced technology has made the world developed well today, UZSW has also taken the initiative by creating an online zakat application system named e-ZAKAT. It is a system developed by UZSW of UiTM Johor recently. The purpose of developing e-ZAKAT portal is to facilitate application, reviewing and approval, speeding up the application and approval period and improving the quality of UZSW services. Other than that, the use of this system is to meet the challenge of going green to reduce the use of paper. As for the student who intends to apply zakat every semester, they can do so through e-ZAKAT portal. Basically, e-ZAKAT has many features consisting of application record, personal information,

qualification calculator of asnaf, limit of kifayah, development of zakat system and zakat management. Thus, it is much easier, beneficial and user-friendly.

However, as the system is newly developed, it is certain that this system needs feedback from the users, especially from the zakat applicant. It is to ensure that the system is always working well. Therefore, this research is conducted to study the effectiveness of the online zakat application system (e-ZAKAT) among zakat applicants consisting of UiTM Johor students. This is to ensure that this system can be beneficial, convenient and user-friendly. Other than that, it shows that this system is easy access and show the credibility of zakat institution to all Muslim communities particularly.

2.0 LITERATURE REVIEW

2.1 CONCEPT OF ZAKAT ACCORDING TO ISLAM

Zakat is derived from the word *zakaa* (زَكَّى) which means pure and fertile including clean, blessing, growing, and good for zakat wealth, zakat payer and zakat recipient (asnaf) (Lembaga Zakat Selangor [LZS], n.d.). In terminology, zakat is issuing certain wealth at a certain rate according to certain conditions to be distributed to certain groups (LZS, n.d.).

Zakat is an obligatory (*fardu ain*) to every Muslim who fulfills all the obligatory conditions. This is because zakat is an obligation that exists in the pillars of Islam. Therefore, a Muslim who fails to pay zakat may be considered as an apostate. Meanwhile, a Muslim who does not pay zakat without denying his obligation is a great sinner. Therefore, the government is in charge of controlling zakat distribution and collection.

2.2 CATEGORY OF ASNAF

There are eight categories of zakat recipients or known as *asnaf* who are eligible to receive zakat according to the Quran (Pusat Pungutan Zakat Majlis Agama Islam Wilayah Persekutuan [PPZ MAIWP], n.d.). It can be seen through the table below:

Table 1. Category of *Asnaf*

Category	Description
<i>Al-Fuqara'</i> (poor)	A person who does not have any property, job or income from the other sources that: <ol style="list-style-type: none"> Does not reach 50% of his daily needs and the needs of his dependents. Does not reach 50% of the living expenses of a person who lives moderately and his dependents.
<i>Al-Masakeen</i> (needy)	A person who has a job or business that only partially meets his basic needs but not enough to cover daily needs and his dependents.
<i>Fisabilillah</i> (for the sake of Allah)	Any person or party who engages in an activity to uphold, defend and propagate Islam and its virtues.
<i>Muallaf</i> (those inclined towards Islam)	Those who are inclined to accept Islam or who embraced Islam but the belief of Islam is not strong yet. It is divided into two namely: <ol style="list-style-type: none"> Muslim <ul style="list-style-type: none"> ✓ Newly reverted to Islam. ✓ Muslim leaders who have a good relationship with non-Muslim leaders who are equivalent or have the same level as them. ✓ Muslim leaders who are still weak in faith but still obeyed by the people under his leadership.

	<ul style="list-style-type: none"> ✓ Muslim who lives on the border which is close to the enemy country. 2. Non-Muslim ✓ Can be persuaded to revert to Islam. ✓ Can be persuaded not to harm Muslim.
Al-Amileen (zakat administrator)	Those who are directly involved with zakat institution whether individual or organization to manage and administer zakat affairs including collection, distribution, financial affairs and so on.
Al-Riqab (slave)	Freeing the Muslim from the grip of slavery and conquest whether in physical or mental grip such as the grip of ignorance and shackled under the control of certain people.
Al-Ghaarimeen (debtor)	Those who are in debt to meet the basic needs of their own welfare, their dependent families or the community who need immediate settlement and are allowed by sharia.
Ibnu Sabil (wayfarer)	Any person traveling from any state or country who needs aid for the purposes that approved by sharia.

2.3 THE APPLICATION OF TECHNOLOGY IN ZAKAT INSTITUTION

FinTech refers to the use of technology in the financial system (Financial Technology). The presence of FinTech is seen to be able to compete with traditional financial institutions as it offers flexible and convenient financial products and service at lower cost and more effective. According to Johari and Yusoff (2019), payment and distribution of zakat through FinTech is still unsatisfactory according to the website of zakat institutions in Malaysia. Zakat institution that acts as significant organization in administering zakat collection and distribution in Malaysia should seize this chance to explore and adapt more in FinTech to improve the existing system. The component of trust will assist zakat institutions in gaining trust from zakat payers via FinTech. Hence, it can improve the effectiveness of management in terms of collection and distribution of zakat.

The distribution of zakat should keep up with technological advancements, particularly with the rise of the Industrial Revolution (IR4.0). The traditional manual approach of collecting and distributing zakat should be replaced with more modern methods that is in line with the current industry standards as stated in the study of Ismail et al. (2022). According to Saro et al. (2022), the adaptation of technology in zakat implementation is parallel with the development of Industrial Revolution 4.0. It also shows that the role of zakat institutions is very important in adapting the advance of technology today.

As Meerangani et al. (2021) mentioned, technological advancement makes zakat institutions easier to handle, which in turn increases zakat collection. The institution has diversified zakat payment methods such as payment through banking, official portal, mobile application and MyEg. Indirectly, it can help the community to be more aware of their obligation to pay zakat. According to Abdul Razak et al. (2022), students today prefer learning through games. Therefore, zakat application should be shared and distributed widely to make it easily accessible to students via the internet. This will enable them to apply it from anywhere they are.

Also, there are several institutions that have started developing their own digital applications. It is to improve the quality and management of zakat institution itself. For instance, Lembaga Zakat Selangor (LZS), Lembaga Zakat Negeri Kedah (LZNK) and Pusat Pungutan Zakat Majlis Agama Islam Wilayah Persekutuan (PPZ MAIWP) (Saro et al., 2022).

2.4 ADVANTAGES OF USING FINTECH IN ZAKAT INSTITUTION

Johari and Yusoff (2019) have stated that one of the advantages of using FinTech in zakat institution is the service becomes more efficient to any parties especially zakat payers and zakat recipients. All business can be done online at any time. Zakat payers can pay zakat quickly and comfortably without wasting time queuing at the counter. Meanwhile, zakat applicants can easily apply online and check the status of their application anywhere. In fact, the distribution of zakat to *asnaf* can be done systematically.

Secondly, communication becomes easier. Zakat institution can obtain the information quickly when they can connect with people through online medium like WhatsApp, email, Facebook, and others. Fast and accurate information is easier for zakat payers and zakat recipients.

Thirdly, data storage is more organized and systematic through a database. Work management becomes easier, simpler and faster through the use of various software. In fact, zakat data can be used as a source to analyze information accurately.

Fourthly, the security of data and information is more guaranteed. Online data and information can be handled where the owner or supervisor offers standard and certified security facilities to link user accounts with account verification.

In a nutshell, FinTech facilitates the payment of zakat and helps the *asnaf* to receive zakat. The government fully supports FinTech through National Bank to develop and supervise FinTech technology. In order towards Industrial Revolution 4.0, the application FinTech needs to be implemented in every zakat institution. This is to ensure the collection and distribution of zakat is effective.

2.5 ONLINE ZAKAT MANAGEMENT SYSTEM: DISTRIBUTION

According to Sa'ari et al. (2022) and Abdullah et. al (2021), there are two Polytechnics that apply E-Zakat system which are Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS) and Politeknik Ungku Omar (PUO). The main functions of these systems are to distribute zakat to the students and facilitate the management of application accordingly. This is because the distribution of zakat must be well managed to ensure the effectiveness in improving the quality of life of the student. Therefore, E-Zakat system facilitates POLIMAS zakat management in storing and organizing data according to the specified requirements. Rapid Application Development (RAD) has been used to develop E-Zakat system (Sa'ari et al., 2022). It is much easier for the student to apply zakat other than helping zakat management to track student information regularly. In addition, it acts as a student data center that can be audited and monitored by POLIMAS management. Students also strongly agree E-Zakat facilitates and gives satisfaction. The implementation of E-Zakat helps zakat distribution to be given to the priority students so that they are not burdened with financial problems. It can simultaneously increase their motivation towards academic and co-curricular excellence.

Abdullah et al. (2021) added that E-Zakat causes the students no longer needed to fill in the form manually. They just make an online application through the portal www.zakatpuo.com. Next, the system will generate zakat calculation and make it easier for the officer to check and update the application status online. Finally, the interview eligibility status of prospective zakat applicants as well as the list of students eligible to receive zakat will be displayed for the reference of students and management. The specialty of this system is the application data, result of the calculation as well as the final status of the students will be stored in the database to prevent loss and duplication of data. Indeed, this system

increases the productivity of work processes and contributes to the safe and accurate data storage.

Other than zakat system applied in the polytechnic, Shaiffe and Hassan (2021) have stated that the state zakat institution has started to introduce the concept of wakalah zakat recently. It is to increase the collection and expand the distribution of zakat. Wakalah zakat is a policy of returning zakat to the zakat payers (individuals, companies, employers and institutions of higher education) to be redistributed to eligible *asnaf*. It can be said that this concept is a relatively new innovation in zakat management especially in Malaysia. Zakat institution in the Federal Territory have taken the initial step by developing *MyWakalah* application to improve wakalah zakat efficiency. The application procedure, approval, review and distribution process may be carried out efficiently through this application. In fact, *MyWakalah* is a good technology in zakat management, particularly in the Federal Territory. This application is an online integration medium involving three parties: Pusat Pungutan Zakat (PPZ)-MAIWP, Baitulmal-MAIWP, and zakat payer. In addition, it facilitates the recording of application, approval, review and distribution of wakalah zakat. The recording enables the continuous monitoring and improvement process of the concept of wakalah zakat in the future.

3.0 METHODOLOGY

This study was conducted using a quantitative method through a descriptive research approach in the form of survey through Google Form application. The main instrument used in the data collection of this study was the survey method. The survey of this study consisted of two parts. Part A covered the socio demographic characteristics of the respondents. Among the characteristics measured were gender, level of study, semester and faculty. Part B covered the e-ZAKAT survey feedback with four answer choices using a Likert scale (1=strongly disagree, 2=disagree, 3=agree and 4=strongly agree). This was to ensure that the respondents indicate the level of agreement that was suitable for them.

The survey was distributed using a systematic sampling method. A total of 443 questionnaires were distributed online where the respondents were from the zakat applicants consisting of students of UiTM Johor.

Once the data was collected, it was analyzed using the Statistical Package for the Social Sciences (SPSS). The data analyzed take into account the frequency, percentage and mean. Meanwhile, the mean interpretation value is as shown in the table below:

Table 2. Interpretation of mean value

Value of mean	Mean interpretation
1.00-1.80	Very weak
1.81-2.60	Weak
2.61-3.40	Moderate
3.41-4.20	Good
4.21-5.00	Very good

4.0 FINDINGS AND DISCUSSION

This section discussed the findings of the study which were the demographic of respondent and e-ZAKAT survey feedback of the zakat applicants consisting of students of UiTM Johor. The figure showed the background of the respondents which consisted of gender, level of study, semester and faculty. The table below showed the results of the study conducted using the questionnaire instrument.

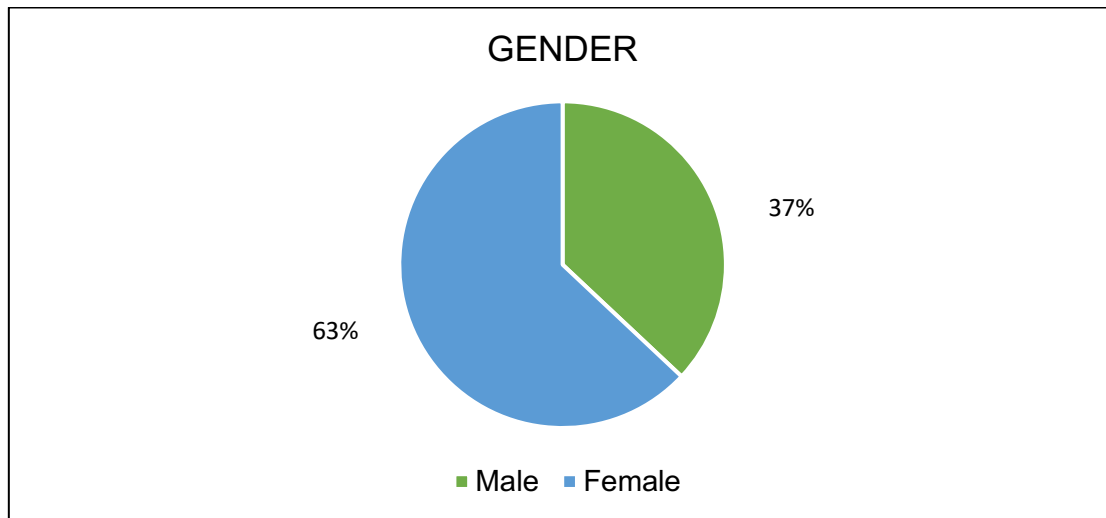


Fig. 1 Percentage of gender

According to the **Fig.1**, the highest respondents were female which is 63% (279 students) while the lowest respondents were male which is 37% (164 students).

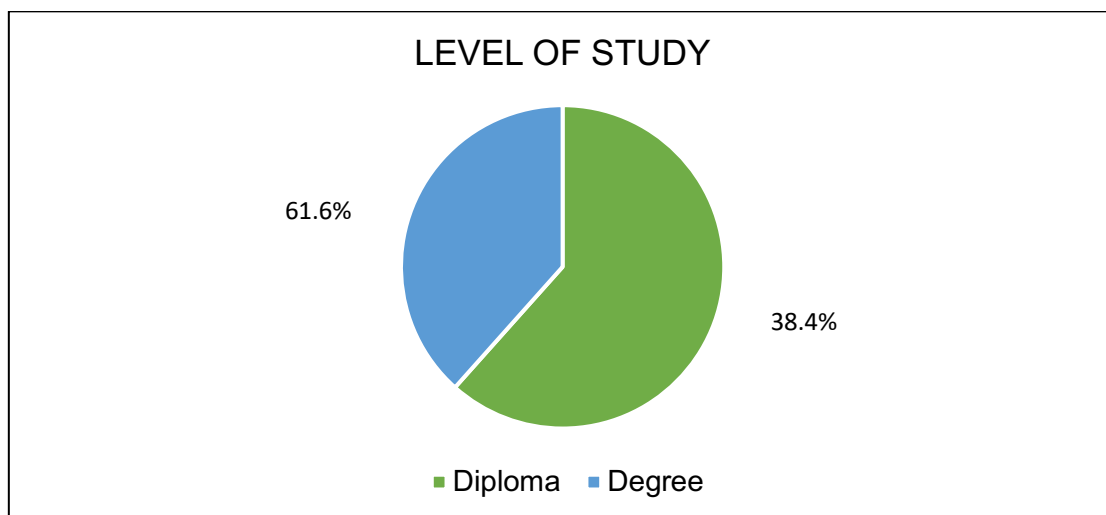


Fig. 2 Percentage of level of study

In the **Fig. 2**, majority of the respondents were from Diploma level which is 61.6% (273 students) while 38.4% (170 students) were from Degree level. It showed that respondents who applied zakat from Diploma level was higher than Degree level.

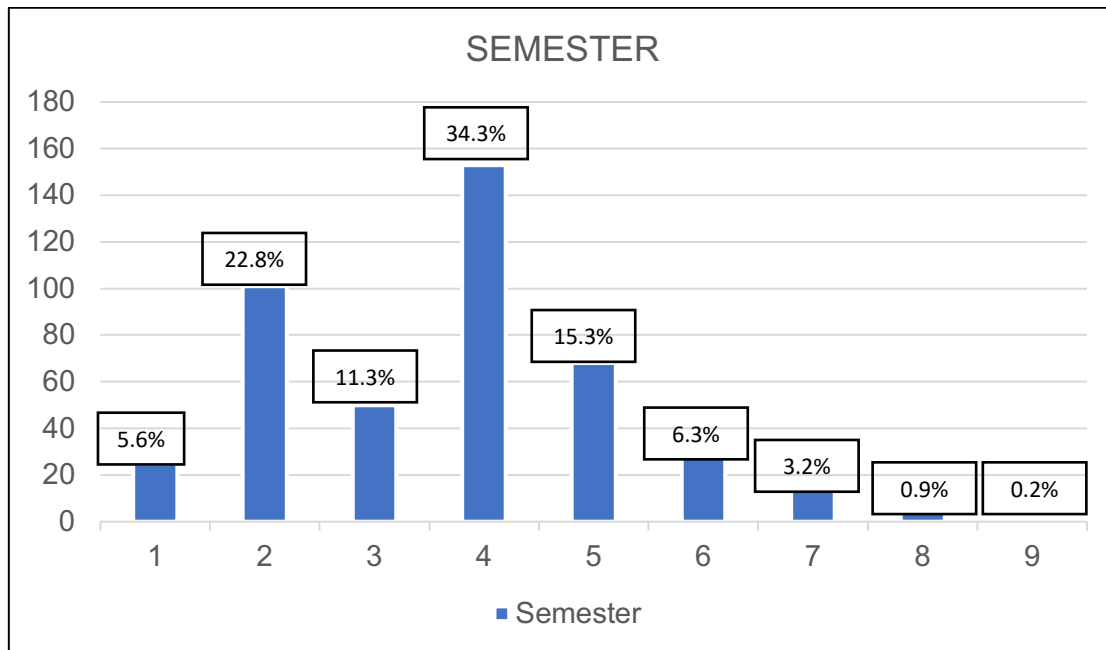


Fig. 3 Percentage of semester

Fig. 3 shows that Part 4 had the highest percentage of the respondents which is 34.3% (152 students), followed by Part 2 which is 22.8% (101 students). Meanwhile, Part 8 and Part 9 had the lowest percentage which is 0.9% (4 students) and 0.2% (1 student) only.

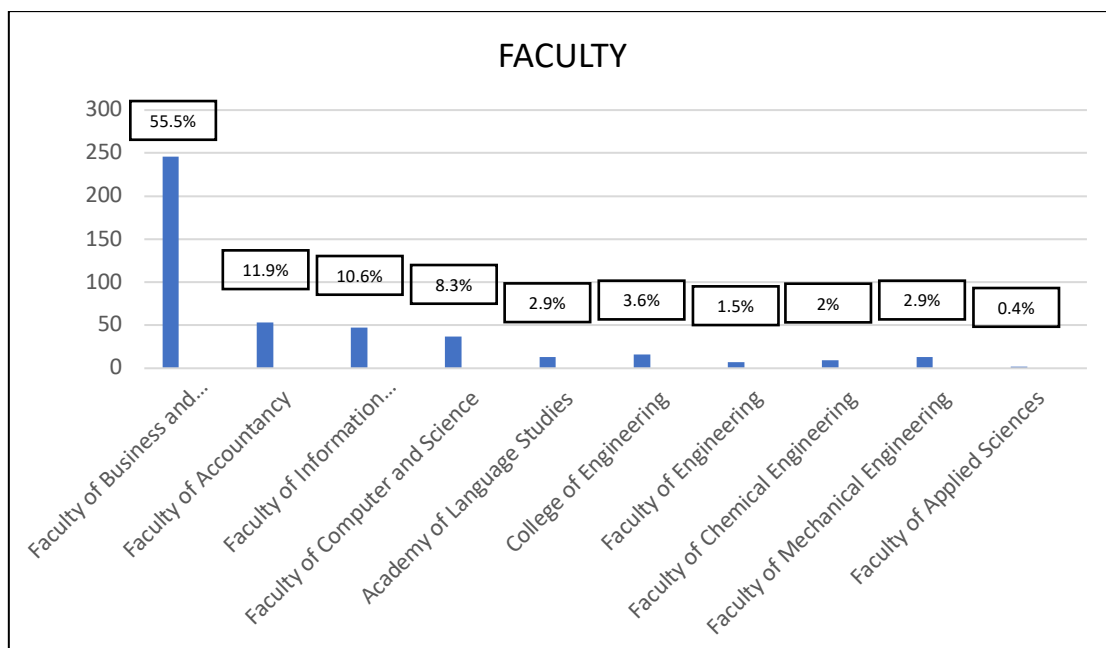


Fig. 4 Percentage of faculty

According to the **Fig. 4**, the highest respondents were from the Faculty of Business and Management which is 55.5% (246 students), followed by 11.9% (53 students) from the Faculty of Accountancy. Meanwhile, the lowest respondents were from the Faculty of Applied Sciences which is 0.4% (2 students).

Table 3. Easiness to obtain information on UiTM Zakat application

Item	Frequency (f) Percentage (%)				Mean
	1	2	3	4	
I can easily get information about the UiTM Zakat application through e-ZAKAT portal	8 1.8	12 2.7	267 60.3	156 35.2	3.00
I have been explained about the use of e-ZAKAT before making the application	6 1.4	42 9.5	269 60.7	126 28.4	3.16
e-ZAKAT system is more effective compared to conventional applications that use forms	5 1.1	4 0.9	192 43.3	242 54.6	3.51
The application process of the e-ZAKAT system is very easy and user-friendly	5 1.1	2 0.5	197 44.5	239 54	3.51
The information and documentation required is minimal and appropriate	6 1.4	2 0.5	228 51.5	207 46.7	3.44
Automatic selection of the interview panel by the system is better than decided by the students themselves	12 2.7	14 3.2	264 59.6	153 34.5	3.26

(*Note: 1- Strongly disagree, 2- Disagree, 4- Agree, 5- Strongly agree)

Table 3 shows the easiness to obtain information on UiTM Zakat application. Based on the figure above, a total of 54.6% of the respondents (242 students) strongly agree that e-ZAKAT system is more effective compared to conventional applications that use forms, followed by 43.3% (192 respondents) agree with it. Meanwhile, 0.9% (4 respondents) and 1.1% (5 respondents) respectively disagree and strongly disagree with this item. Therefore, the total number of respondents who agree and strongly agree were 434 respondents (98%).

Next, the application process of e-ZAKAT system is very easy and user-friendly received the second highest choice by the respondents. It states that 54% (239 respondents) strongly agree followed by 44.5% (197 respondents) agree with it. Meanwhile, 0.5% (2 respondents) and 1.1% (5 respondents) disagree and strongly disagree with this item respectively. Thus, the total number of respondents who agree and strongly agree were 436 respondents (98.4%).

Then, the information and documentation required is minimal and appropriate placed third where 46.7% (207 respondents) strongly agree with it followed by 51.5% (228 respondents) agree with it. Meanwhile, 0.5% (2 respondents) and 1.4% (6 respondents) disagree and totally disagree with this item. Therefore, the total number of respondents who agree and strongly agree were 435 respondents (98.2%).

Fourthly, 34.5% of the respondents (153 students) strongly agree with the automatic selection of the interview panel by the system is better than decided by the students themselves. 59.6% (264 respondents) agree with it. However, 3.2% (14 respondents) disagree and 2.7% (12 respondents) totally disagree. Thus, 94.1% of the respondents who agree and disagree with the statement.

Besides, 35.2% (156 respondents) strongly agree with the item 'the information of UiTM Zakat application through e-ZAKAT portal is easy to obtain, while 60.3% (267 respondents) agree with it. Meanwhile, only 2.7% (12 respondents) disagree and 1.8% (8 respondents) strongly disagree. Therefore, the total number of respondents who agree and strongly agree were 423 people (95.5%).

Finally, the item 'I have been explained about the use of e-ZAKAT before making the application' scored the lowest where only 28.4% (126 respondents) strongly agree with it, followed by 60.7% (269 respondents) agree. Meanwhile, 9.5% (42 respondents) disagree and 1.4% (6 respondents) strongly disagree. Thus, the total number of respondents who agree and strongly disagree were 395 respondents (89.2%).

Table 3 also shows the mean score for the easiness to obtain information on UiTM zakat application. The highest mean is 3.51 for two items which were 'e-ZAKAT system is more effective compared to conventional applications that use forms' and 'the application process of the e-Zakat system is very easy and user-friendly'. Meanwhile, the item 'I can easily get information about the UiTM Zakat application through e-ZAKAT portal' has the lowest mean which is 3.00. It can be said that the respondents feel that this item is not the main facility that help them in the e-Zakat system.

According to the findings above, it can be stated that most of the respondents choose strongly agree and agree to all of the items. It means that UiTM Zakat Application has provided the best system and service by providing all the information to the applicants.

5.0 CONCLUSION

In conclusion, e-ZAKAT received a positive feedback from the applicants. The existence of e-ZAKAT helps the applicants to apply zakat easily as it is user-friendly and can save time. In addition, this system also provides various up-to-date information needed by the students. Due to that, the applicants feel that the system help them in applying zakat.

Besides, e-ZAKAT of UiTM Johor can also be a good example to the other public universities and agencies to implement and run a good system. Using such system can simplify many issues to both parties. The process will become easier and can speed up the zakat payment to the qualified applicants. Indirectly, there will be more applications made by the applicants due to the convenience of the system provided.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. Author 1 carried out the fieldwork, prepared the literature review and overlook the writeup of the whole article. Author 2 wrote the research methodology carried out the statistical analysis and interpretation of the results. Author 3 did the data entry.

REFERENCES

- Abdullah, S. L. K. S., Ithnin, Z., & Man, A. F. C. (2021). Sistem e-zakat di Politeknik Ungku Omar. *Jurnal Kejuruteraan, Teknologi dan Sains Sosial*, 7(3), 1-9.
- Abdul Razak, R., Dol@Abdul Wahid, A. H. & Musman, M. (2022). Maintaining student engagement and motivation in management accounting course: OV game for students. *Insight Journal*. <https://doi.org/10.24191/insightjournal.v0i0.18468>.
- Ismail, A. H. & Hassan, N. S. (2022). Technology adoption: Are the small-medium audit firms ready?. *Insight Journal*. <https://doi.org/10.24191/insightjournal.v0i0.17335>.
- Johari, M. N. S., & Yusoff, A. S. (2019). Fintech: Ke arah keberkesanan kutipan dan agihan zakat di Malaysia. *International Journal of Zakat and Islamic Philanthropy*, 1(2), 49-59.
- Lembaga Zakat Selangor. (n.d.). *Pengertian zakat*. <https://www.zakatselangor.com.my/info-zakat/zakat-kewajipan-berzakat/pengertian-zakat/>.

- Meerangani, K. A., Sharipp, M. T. M., Rosele, M. I. Hamid, M. F. A., & Razak, A. Q. A. (2021). Digitalisasi sistem pengurusan zakat di Malaysia: Potensi dan cabaran. *Journal of Business Innovation*, 6, 36-48.
- Pusat Pungutan Zakat Majlis Agama Islam Wilayah Persekutuan. (n.d.). *Golongan penerima zakat*. <https://www.zakat.com.my/info-zakat/golongan-penerima-zakat/>.
- Sa'ari, S. N., Soid, M. H. M., & Ayob, F. (2022). Keberkesanan pelaksanaan sistem e-zakat di Politeknik Sultan Abdul Halim Mu'adzam Shah. *Proceeding International Multidisciplinary Conference (IMC 2022)*, 89-93.
- Saro, N., Bhari, A. & Rani, A. M. (2022). Application in financial management among Malaysia's zakat management institutions. *Journal of Information System and Technology Management (JISTM)*, 7(26), 32-42.
- Shaiffe, F., & Hassan, S. A. (2021). Mywakalah application: Zakat management through the concept of wakalah zakah by zakah institution in the federal territory. *Journal of Islamic, Social, Economics and Development (JISED)*, 6(39), 99-102.
- Unit Zakat, Sedekah dan Wakaf. (n.d.). *Pengenalan*. https://johor.uitm.edu.my/index.php?option=com_sppagebuilder&view=page&layout=e&id=104.

THE TRIANGULATED INFLUENCE OF ELECTRONIC WORD OF MOUTH (eWOM) INFORMATION ON CONSUMER PURCHASE INTENTION: A CONCEPTUAL PAPER

Irwan Ismail^{1*}, Akmal Aini Othman², Muhammad Majid³

¹ Postgraduate student, Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Segamat Campus, 85000 Segamat Johor

² Associate Professor, Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Segamat Campus, 85000 Segamat Johor

³ Senior Lecturer, Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Segamat Campus, 85000 Segamat Johor

*Corresponding Author

Email: ¹irwanismail@uitm.edu.my, ²akmal123@uitm.edu.my, ³muhdmajid@uitm.edu.my

Received: 30th November 2023

Accepted: 14th March 2024

ABSTRACT

In the contemporary of digital era, consumer decision-making processes have evolved significantly in response to the proliferation of information sources. This conceptual paper explores the intricate nexus between information credibility, valence information, information quality, and resultant consumer purchase intention across diverse industry domains. Recognizing the pivotal role of consumer perceptions in shaping buying decisions, this paper aims to elucidate the conceptual framework governing these variables. Through a comprehensive literature synthesis and theoretical analysis, this paper endeavours to delineate the interconnections among information credibility, valence content, and information quality, elucidating their collective influence on consumer decision-making. By proposing a conceptual framework that integrates these variables, this paper aims to offer a conceptual roadmap for understanding how consumers perceive and evaluate information credibility, react to valence content, and assess information quality, culminating in their purchasing behaviours across industry sectors. This conceptual exploration aims to lay the foundation for future empirical investigations and strategic business approaches, facilitating a deeper comprehension of the intricate dynamics guiding consumer behaviour in the digital age.

Keywords: eWOM, Information credibility, Information quality, Valence information

1.0 INTRODUCTION

Recently, organizations and companies have influenced the changes in communication and information of consumers towards products and services (Fatma et al., 2020; Putri, 2023). According to Semrush article, 83% of marketers used electronic word-of-mouth marketing to increase brand awareness (Semrush, 2021). Although consumers have a lot of access to eWOM information in social media with various platforms available (Sugiran et al., 2022; Musa et al., 2023; Putri, 2023), trustworthy information in social media has become more crucial and critical nowadays. According to the Deputy Minister of Communication and Digital, losses due to social media scams through Facebook and Instagram platforms in Malaysia recorded up to RM302 million in the last three years until June 2023. Based on the report, losses from the

Facebook platform are RM232 Million, and the Instagram platform is RM70 million (Ahmad, 2023).

The influence of electronic word of mouth (eWOM) on consumer purchase intention is a complex and multifaceted phenomenon that encompasses various variables such as information quality, information valence, and information credibility (Mehmet et al., 2018). The impact of eWOM on consumer behavior is influenced by sender characteristics, information characteristics, and receiver characteristics, with trust and involvement playing intermediary and moderating roles (Ye & Zheng, 2017). Additionally, the adoption of eWOM information in social media and shopping websites could have different influences on consumers' purchase intentions (Erkan & Evans, 2016). Furthermore, the quality, timeliness, and expertise of eWOM are crucial factors that influence consumers' purchase intentions (Wei & Leng, 2017).

The credibility of eWOM information is also a significant determinant of its influence on purchase intention. Studies have shown that the credibility of eWOM information, including source credibility and social media credibility, plays a crucial role in shaping consumers' attitudes and purchase intentions (Erkan & Evans, 2016; Leong et al., 2021). Moreover, the valence of eWOM, whether positive or negative, has been found to impact consumer purchase intention, with positive eWOM via social media affecting brand attitude and subsequently influencing purchase intention (Kudeshia & Kumar, 2017). Furthermore, the influence of eWOM on purchase intention is not limited to specific product types or sources of information. It extends to various industries, including the fast-food industry, wellness offers, cross-border e-commerce, and the low-cost airline industry (Afandi & Marsasi, 2023; Xiao et al., 2019; Ruangkanjanases et al., 2021; Yodpram & Intalar, 2020). Additionally, the influence of eWOM on purchase intention is not confined to a particular demographic, as evidenced by comparative studies between different consumer groups in different countries (Ruangkanjanases et al., 2021).

2.0 LITERATURE REVIEW

2.1 eWOM Information

The rise of new media channels has enabled consumers to share their experiences and opinions with other consumers through online platforms to engage in electronic word-of-mouth marketing (eWOM) (Cheung & Thadani., 2012). Hennig-Thurau et al. (2004) defined eWOM communication as any communication of positive or negative statements made by potential, actual and or former consumers towards a product or company, made available to many people via the Internet. The interaction is expressed through various social media mechanisms, forums, websites, chat groups, corporate blogs and social networking sites (Torres et. al., 2018 ;Hennig-Thurau et al., 2004). As social network website has become more powerful, the systematic structure provides people with a new way of communicating and sharing content (Majlesirad & Haji pour Shousthari, 2020). The potential of eWOM in social media helps consumers gain more information from other consumers and exchange information with the organization. Park et al. (2021) in their study stated that consumers who rely on social media need information and opinions from others, potentially increasing their awareness of the brand as they enjoy sharing their information and experience. eWOM on social media attracts consumers to get more information and communicate with others. eWOM spreading in social media has become critical in shaping consumer behavior and attitude characteristics (Fazrin & Fatthi, 2018).

2.2 Information Quality

Information quality can be defined as the overall reliability, accuracy, usefulness, and clarity of information (Martometno et al., 2020; Zárraga-Rodríguez & Álvarez, 2015;). It encompasses various dimensions or attributes that contribute to the quality of information. These dimensions can include intrinsic quality, contextual quality, representational quality, and accessibility quality (Mai, 2013; Yang et al., 2020; Tutty et al., 2023). Intrinsic quality refers to the accuracy, objectivity, believability, and reputation of the information, ensuring that the information is reliable and trustworthy (Lillrank, 2003). Accessibility quality focuses on the ease of access and security of the information, ensuring it is easily accessible to users while maintaining its confidentiality and integrity (Al-Jefri et al., 2018; Lillrank, 2003). Contextual quality considers the relevancy, value-added, timeliness, completeness, and amount of data in the information, which ensures that the information is relevant to the user's needs, up-to-date, and comprehensive (Yang et al., 2020; Lillrank, 2003). Representational quality refers to the interpretability, ease of understanding, concise representation, and consistent representation of the information that ensures the information is presented clearly and understandably (Tao et al., 2017; Lillrank, 2003). Information quality is crucial in ensuring that the information provided is accurate, reliable, and valuable for its intended purpose (Brown et al., 2019). Assessing information quality is vital in various domains, such as healthcare and technology, to ensure that users have access to high-quality and trustworthy information (Tao et al., 2017).

In eWOM, information quality is emphasized due to the rapid growth of online communication platforms such as social media, websites, and blogs (Leong et al., 2022). Word of mouth, including eWOM, is considered one of the most influential factors affecting consumer behavior (Leong et al., 2022). Tonder et al. (2018) investigated the relationships between perceived value, relationship quality, and positive word-of-mouth intentions, and the study found that relationship quality factors, such as competence, trust, continuous commitment and the relationship between perceived value and positive word-of-mouth intentions drive positive word-of-mouth behavior. The literature on information quality in electronic word of mouth (eWOM) highlights its significance in influencing consumer behavior and purchase intention where the guidelines and checklists to design high-quality online information (Diviani et al., 2015). The quality of information in online reviews has been examined, and the information quality of reviews has been measured based on relevance, comprehensibility, adequacy, and objectivity (Zhu et al., 2020). The quality of online reviews and the impact of social media on behavior change are key areas in developing guidelines, improving literacy, and considering contextual factors crucial in enhancing the quality and impact of information in eWOM (Goodyear et al., 2021).

Table 1: Study on information quality and purchase intention

Authors	Years	Journals	Finding
1.Wawan Prahiawana, 2.Mochammad Fahlevib, 3.Juliana Julianac, 4.John Tampil Purbac, 5.Khamaludind, 6.Syahrani Syamd 7.Sri Lestarie	2022	Uncertain Supply Chain Management	positive and significant relationship between information quality and consumer purchase intentions
1. Jungkun Park 2. Hyowon Hyun 3. Toulany Thvisay	2021	Journal of Retailing and Consumer Services	Social media information increase consumer purchase intention.

2.3 Information credibility

Information credibility refers to the perceived trustworthiness and believability of information or sources (Loh & Chiang, 2022; Lin & Bautista, 2018). According to Song et al. (2021), credibility refers to users' perceptions of information quality. It is a multidimensional concept encompassing various dimensions, such as trustworthiness, expertise, validity, and truthfulness (Balouchi et al., 2017; Loh & Chiang, 2022). Both individual cognitive processes and social interactions can influence credibility assessment. Credibility judgments are not solely based on individual effortful processing but can also be influenced by social cues and heuristics (Metzger et al., 2010). In addition, heuristic evaluative strategies allow individuals to make quick judgments about credibility based on limited information or cues, as individuals may rely on the source's reputation or the consensus of others to determine credibility (Metzger et al., 2010). Furthermore, for example, for advertising, credibility refers to the perceived truthfulness and believability of the information in the advertisement. In contrast, advertiser credibility refers to the perception of a company as a credible source of information (Lin & Bautista, 2018).

The information credibility also impacts electronic word-of-mouth on e-loyalty and consumers' e-purchase decision-making process. Information credibility describes where individuals perceive recommendations, comments, or reviews as believable and trustworthy. The credibility of the information the online community shares via social networking sites is crucial in influencing consumers' trust and purchase decisions (Perera et al., 2019). In addition, information credibility positively influences perceived usefulness and information sharing on social media (Le, 2023)—the importance of reputation, expertise, and honesty in judging information credibility. Trust in information quality and credibility is crucial, especially in sensitive discussion topics (Savolainen, 2021). As for Croatian adolescents, source attributes such as competence, trustworthiness, expertise, and knowledge in determining information credibility for everyday life decisions (Kolarić, 2022). Other than that, Trust the source enhances the perception of message credibility, enabling individuals to benefit more from the information provided. Source credibility is vital in reducing perceived risk and increasing the value individuals attach to information (Botha, 2023).

Table 2: Study on information credibility and purchase intention

Authors	Years	Journals	Finding
1. Ahmad Daowd 2. Ruaa Hasan 3. Tillal Eldabi 4. Piyya Muhammad Rafi-ul-Shan 5. Dongmei Cao 6. Naphat Kasemsarn	2021	Journal of Enterprise Information Management	the credibility of eWOM has a significant impact on consumer purchasing intention
1. Safdar Hussain 2. Wasim Ahmed 3. Rana Muhammad Sohail Jafar 4. Ambar Rabnawaz	2017	Computer in Human Behavior	eWOM source credibility influence consumer decision making to purchase.

2.3.1 Valence Information

From various perspectives, valence information refers to the positive or negative evaluation or emotional quality associated with a concept, stimulus, or information. It is crucial in different domains, such as affective neuroscience, memory, consumer behavior, and chemistry. Valence information influences the decision either to the positive or negative nature of the affective response, while strength represents the intensity or magnitude of the affective

response (Morris et al., 2003). In cognitive processing, valence information plays a role in various tasks and behaviors (Reggin et al., 2021). Valence information plays a role in the cognitive processing of information variables, reflecting the cognitive effort and searching devotion involved in acquiring valence-related information. (Li et al., 2021). Furthermore, Liu et al. (2019) emphasize the importance of valence in online reviews, as it serves as an indicator of electronic word-of-mouth (eWOM) information that influences consumers' judgments where the valence information, whether positive or negative, plays a significant role in shaping consumers' perceptions and attitudes towards products or services. Similarly, Shabbir (2022) highlights that negative information, reviews, and stereotypes influence consumer behavior more significantly than positive information.

Valence information is crucial to understanding and measuring electronic word of mouth (e-WOM) online. Researchers have identified valence as one of the critical dimensions of e-WOM, along with volume and content (Gohar et al., 2019). Studies have shown that valence information in e-WOM significantly impacts consumer behavior and purchase intentions. Positive valence e-WOM, which includes positive opinions and recommendations, can enhance trust in products and companies, influencing consumers' online shopping intentions. On the other hand, negative valence e-WOM, which includes negative opinions and criticisms that create doubts and concerns about products, services, or brands, decreases purchase intentions (Hajli, 2022). Valence information in e-WOM is particularly relevant on social media platforms, where users freely generate and disseminate information about brands and products, and social media provides a fast and accessible medium for e-WOM, allowing users to share their opinions and experiences with a broad audience (Zheng, 2023). According to Amatulli et. al., (2020), to evaluate the influence of affective commitment, high-sacrifice commitment, and satisfaction on customers' e-WOM regarding an online retailer, they found that satisfaction and high-sacrifice commitment significantly impact both the volume and valence of e-WOM, while affective commitment only influences e-WOM valence. Understanding valence information in e-WOM is crucial for businesses and marketers; Zheng (2023) and Hall (2018) highlight the importance of social media marketing activities and the differences in responses to brand equity based on gender. It indicates that valence information on social media can influence consumers' perceptions and responses to brands.

Table 3: Study on valence information and purchase intention

Authors	Years	Journals	Finding
1. Nick Hajli	2020	Information Technology & People	Valence Information influence consumers purchase intention.
1. Gobinda roy 2. Biplab Datta 3. Srabanti Mukherjee 4. Rituparna Basu 5. Avinash K. Shrivastava	2021	International Journal Technology Marketing	different types of eWOM valence have different levels of effects on online purchase intention.

2.3.2 Purchase Intention

Berger (2014) stated that the meaning of purchase intention is Consumer willingness to consider buying, buying intention in the future, decision repurchase, and degree of perceptual conviction of a customer to purchase a product or service. Purchase intention is a combination of consumer interest and the possibility of buying a product (Kim & Ko, 2012). Purchase intention refers to the inclination or likelihood of a consumer to purchase a specific product or brand. It measures consumers' intention to buy a particular product (Davtyan et al., 2020). Purchase intention is influenced by various factors, including self-concept congruency, product attitudes, actual and ideal self-concept, brand memory, brand preference, consumer

attitudes, perceived behavioral control, food neophobia, subjective norms, environmental concern, perceived service quality, trust, and perceived risk (Chang et al., 2019; Putra & Lestari, 2023; Khalid et al., 2018). When a product is described as congruent with viewers' self-concept, it elicits higher purchase intention compared to a similar product that does not match viewers' self-concept, and the closer a product's image matches the buyers' self-concept, the higher the purchase intention for that product (Hong & Zinkhan, 1995). Other factors that influence purchase intention include consumer attitudes and perceived behavioral control. Consumer attitudes and perceived behavioral control have been found to influence purchase intention significantly (Chang et al., 2019). Perceived service quality, trust, and perceived risk also shape purchase intention in online shopping (Putra & Lestari, 2023). Other factors influencing purchase intention include consumer evaluation, functional experience, emotional experience, and product characteristics such as connectivity, interactivity, telepresence, intelligence, convenience, and security (Chang et al., 2014). Consumer evaluation and feelings arising from their experience can influence attitudes, future purchase intention, and the willingness to recommend a product to others (Chang et al., 2014). Sadli (2022) found that consumers' sensory, emotional, and cognitive experience will influence their intention to purchase. Purchase intention is significantly important for businesses and marketers as it directly influences consumer behavior and ultimately affects sales and profitability. Understanding and influencing purchase intention can increase customer acquisition, retention, and brand loyalty (Shaouf et al., 2016). One of the key reasons why purchase intention is important is concerning actual purchase behavior. When consumers have a high purchase intention for a product or brand, they are more likely to follow through and make the purchase (Shaouf et al., 2016). Moreover, Trust towards product or services also may influence consumer purchase as it shapes consumer behavior (Farah et al., 2022).

eWOM shares opinions, experiences, and recommendations about products or services through online platforms. A synthesis of the findings about the Quality and Quantity of eWOM, where the quality and quantity of eWOM information positively impact purchase intention (Park et al., 2007). Electronic Word of Mouth (eWOM) plays a pivotal role in shaping consumer purchase intention, with several critical factors, including trust and credibility, that influence this dynamic relationship. Electronic word of mouth (eWOM) significantly influences purchase intention (Hennig-Thurau et al., 2004). Consumers tend to trust recommendations from credible sources such as influencers or reputable online platforms, and consistency across multiple sources reinforces trust, positively impacting purchase intention. Electronic word of mouth (eWOM) significantly influences purchase intention, where consumers rely on eWOM information shared on social media platforms to make informed purchase decisions (Cong & Zheng, 2017). The quality of information shared through eWOM channels significantly impacts consumers' decision-making processes. The quality of eWOM information plays a vital role in shaping consumers' perceptions and purchase intentions. High-quality information, characterised by relevance, accuracy, and completeness, positively influences purchase intention. Consumers are more likely to trust and act upon eWOM when the information is of superior quality, providing valuable insights into products or services. The more pertinent and complete the information, the more significant its impact influences consumers' purchase intention. Additionally, information credibility is a crucial factor in the eWOM-consumer purchase intention nexus. Consumers are more inclined to trust and act upon recommendations when the information source is credible. Factors such as the reputation of the reviewer, the platform where the eWOM is shared, and the overall trustworthiness of the information source contribute to the credibility of eWOM. Credible eWOM enhances consumer confidence, positively impacting their intention to purchase. Other than that, Consumer involvement is another critical factor influencing the relationship between the credibility of eWOM and purchase intention. Higher levels of consumer involvement led to greater perceived credibility of eWOM, positively affecting eWOM acceptance and intent to purchase (Cong & Zheng, 2017). Higher consumer involvement led to greater perceived credibility of eWOM, positively affecting eWOM acceptance and intent to purchase. High-involvement

consumers are influenced by the quality of eWOM, while low-involvement consumers are more influenced by the quantity of eWOM (Park et al., 2007). Valence information, which conveys the positive or negative sentiment expressed in eWOM, is another significant determinant of consumer purchase intention. Positive valence information stimulates favourable attitudes and intentions towards a product or service, influencing consumers to purchase. Aligning with Cong and Zheng (2017), Positive eWOM information conveying authentic and reliable evaluation of products or services can generate a positive attitude toward the brand and increase purchase intention. Positive eWOM information perceived as reliable and trustworthy can generate a positive attitude toward the brand and increase purchase intention (Park et al., 2007). Conversely, negative valence information may deter consumers from engaging in a transaction. The emotional tone conveyed through eWOM plays a crucial role in shaping consumers' perceptions and, consequently, their purchase intentions. Social influence is another factor where positive eWOM serves as social proof, indicating that a product or service is well-received by peers. The viral nature of eWOM amplifies its impact, reaching a broader audience and influencing purchase intention. To optimise the impact of eWOM on consumer purchase intention, businesses should focus on fostering high information quality, building credibility in their online presence, and actively managing the valence of the information shared. Positive eWOM and social media activities can, directly and indirectly, improve purchase intention by enhancing brand image (Solihin & Ahyani, 2022). A favourable brand image can influence consumers' purchase intention (Solihin & Ahyani, 2022). Second is a Brand image, which mediates eWOM and purchase intention (Solihin & Ahyani, 2022). Encouraging satisfied customers to share positive experiences can enhance the overall positive valence associated with a brand, while promptly addressing and resolving negative feedback can mitigate potential adverse effects on purchase intention. eWOM's influence on purchase intention is complex, encompassing trust, credibility, information quality, valence, social influence, and emotional connections. Businesses that actively manage and cultivate positive eWOM while constructively addressing negative feedback can leverage this influential communication channel to drive consumer purchasing decisions. The interplay between eWOM and consumer purchase intention is intricate, with information quality, credibility, and valence information as critical factors. Businesses that strategically manage these elements can leverage the power of eWOM to influence consumers' purchasing decisions positively.

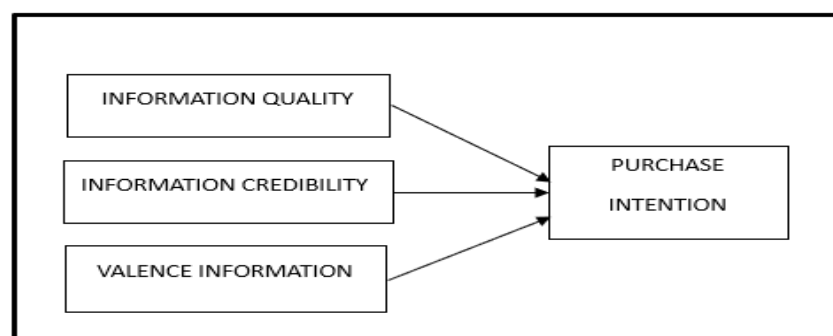


Fig 1: Conceptualization of eWOM information consumer purchase intention

3 CONCLUSION

In conclusion, this conceptual paper has endeavoured to elucidate the intricate relationships between information credibility, valence information, information quality, and their collective impact on consumer purchase behaviours across diverse industry landscapes. Through an extensive review and theoretical synthesis, this paper has underscored the paramount significance of these variables in shaping consumer decision-making processes. The synthesis of existing literature has illuminated the complexities inherent in how consumers perceive and evaluate information, respond to valence content, and subsequently translate

these perceptions into purchase behaviours within different sectors. This strategy serves as a stepping stone towards a more comprehensive understanding of the nuanced interactions among information credibility, valence information, information quality, and consumer behaviour. It underscores the imperative for businesses to adapt and optimize their information strategies in response to evolving consumer perceptions and preferences, fostering enhanced consumer engagement and driving favourable purchase outcomes across diverse industry landscapes.

REFERENCES

- Afandi, M. & Marsasi, E. (2023). Fast food industry investigation: the role of brand attitude and brand loyalty on purchase intentions in generation z based on theory of reasoned action. *Baskara Journal of Business and Entrepreneurship*, 5(2), 206. <https://doi.org/10.54268/baskara.5.2.206-220>.
- Ahmad, O. (2023, July 9). Kerugian penipuan guna FB dan IG cecah RM302 juta. *Harian Metro*. <https://www.hmetro.com.my/mutakhir/2023/07/985954/kerugian-penipuan-guna-fb-dan-ig-cecah-rm302-juta>.
- Al-Jefri, M., Evans, R., Uchyigit, G., & Ghezzi, P. (2018). What Is Health information quality? ethical dimension and perception by users. *Front. Med.*, (5). <https://doi.org/10.3389/fmed.2018.00260>.
- Amatulli, C., De Angelis, M., Pino, G., & Guido, G. (2020). An investigation of unsustainable luxury: How guilt drives negative word-of-mouth. *International Journal of Research in Marketing*, 37(4), 821–836. <https://doi.org/10.1016/J.IJRESMAR.2020.03.005>.
- Balouchi, M., Aziz, Y., Hasangholipour, T., Khanlari, A., Rahman, A., & Raja-Yusof, R. (2017). explaining and predicting online tourists' behavioural intention in accepting consumer generated contents. *JHTT*, 2(8), 168-189. <https://doi.org/10.1108/jhtt-09-2016-0059>.
- Botha, Y. (2023). Determinants Of social organizational credibility: towards a formal conceptualization. *Online.J Commun Media Technol*, 3(13). <https://doi.org/10.30935/ojcm/13218>.
- Chang, H., Ma, C., & Chen, H. (2019). Climate Change and Consumer's Attitude Toward Insect Food. *IJERPH*, 9(16), 1606. <https://doi.org/10.3390/ijerph16091606>.
- Chang, Y., Dong, X., & Sun, W. (2014). Influence of characteristics of the internet of things on consumer purchase intention. *Social Behavior and Personality: An international Journal*, 42(2), 321-330. <https://doi.org/10.2224/sbp.2014.42.2.321>.
- Cheung, C. M. K., & Thadani, D. R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. *Decision Support Systems*, 54(1), 461–470. <https://doi.org/10.1016/J.DSS.2012.06.008>.
- Cong, Y., & Zheng, Y. (2017). A Literature review of the influence of Electronic Word-of-mouth on Consumer purchase intention. *OJBM*, 3(5), 543-549. <https://doi.org/10.4236/ojbm.2017.53047>.
- Davtyan, D., Cunningham, I., & Tashchian, A. (2020). Effectiveness of brand placements in music videos on viewers' brand memory, brand attitude and behavioral intentions. *EJM*, 2(55), 420-443. <https://doi.org/10.1108/ejm-08-2019-0670>.
- Diviani, N., Putte, B., Coombs, W., & Weert, J. (2015). Low health literacy and evaluation of online health information: A systematic review of the literature. *J Med Internet Res*, 5(17), 112. <https://doi.org/10.2196/jmir.4018>.
- Erkan I., & Evans C., (2016). The influence of ewom in social media on consumer purchase intentions: An extended approach to information adoption. *Journal of Computer in Human Behaviour*, 61(2016), 47-55.
- Fatma, M., Ruiz, A., Khan, I., & Rahman, Z. (2020). The effect of CSR engagement on Ewom

- on social media. *IJOA*, 4(28), 941-956. <https://doi.org/10.1108/ijoa-10-2019-1895>.
- Farah, L., A., Zulaiha, A., & Noor, Afzainiza A., (2022). Consumers' Halal products purchase: an integration of TPB. *Insight Journal*, 9(2), 21-32. https://insightjournal.bpjiauitmcj.com/images/papers/Vol9_2.pdf.
- Gohar F. K., Marko S., Shiau W. L., Joseph F. H., Christian M. R., Martin P. & Fritze. (2019). *Internet Research*, 29(3), 407-429.
- Goodyear, V., Boardley, I., Chiou, S., Fenton, S., Makopoulou, K., Stathi, A., & Thompson, J. (2021). Social media use informing behaviours related to physical activity, diet and quality of life during Covid-19: A mixed methods study. *BMC Public Health*, 1(21). <https://doi.org/10.1186/s12889-021-11398-0>.
- Hajli, N. (2020). The impact of positive valence and negative valence on social commerce purchase intention. *Information Technology and People*, 33(2), 774–791. <https://doi.org/10.1108/ITP-02-2018-0099>.
- Hall, J. A. (2018). When is social media use social interaction? Defining mediated social interaction. *New Media and Society*, 20(1), 162–179. <https://doi.org/10.1177/1461444816660782>.
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, 18(1), 38–52. <https://doi.org/10.1002/dir.10073>.
- Hong, J., Zinkhan, G. (1995). Self-concept and Advertising effectiveness: the influence of congruency, conspicuousness, and response mode. *Psychol. Mark.*, 1(12), 53-77. <https://doi.org/10.1002/mar.4220120105>.
- Khalid, N., Wel, C., Mokhtaruddin, S., & Alam, S. (2018). The influence of self-congruity on purchase intention for cosmetic merchandises. *IJARBS*, 4(8). <https://doi.org/10.6007/ijarbss/v8-i4/4122>.
- Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research*, 65(10), 1480-1486. <https://doi.org/10.1016/j.jbusres.2011.10.014>.
- Kolarić, A. (2022). Croatian Adolescents' credibility judgments in making everyday life decisions. *IFLA Journal*, 1(49), 52-60. <https://doi.org/10.1177/03400352221095109>.
- Kudeshia, C. & Kumar, A. (2017). Social ewom: does it affect the brand attitude and purchase intention of brands? *Management Research Review*, 40(3), 310-330. <https://doi.org/10.1108/mrr-07-2015-0161>.
- Leong, C., Loi, A., & Woon, S. (2022). The influence of social media ewom information on purchase intention. *Journal of Marketing Analytics*, 10(2), 145-157. <https://doi.org/10.1057/s41270-021-00132-9>.
- Li, C., Liu, Y., & Du, R. (2021). The Effects of Review Presentation Formats on Consumers' Purchase Intention. *Journal of Global Information Management*, 29(6), 1–20. <https://doi.org/10.4018/JGIM.20211101.OA46>.
- Lillrank, P. (2003). The Quality of Information. *International Journal of Quality & Reliability Management*, 6(20), 691-703. <https://doi.org/10.1108/02656710310482131>.
- Lin, T., & Bautista, J. (2018). Content-related Factors influence perceived value of location-based mobile advertising. *Journal of Computer Information Systems*, 2(60), 184-193. <https://doi.org/10.1080/08874417.2018.1432995>.
- Mai, J. (2013). The quality and qualities of information. *J Am Soc Inf Sci Tec*, 4(64), 675-688. <https://doi.org/10.1002/asi.22783>.
- MajlesiRad, Z., & Haji pour Shoushtari, A. H. (2020). Analysis of the impact of social network sites and eWOM marketing, considering the reinforcing dimensions of the concept of luxury, on tendency toward luxury brand. *Future Business Journal*, 6(1). <https://doi.org/10.1186/s43093-020-00025-w>.

- Martono, S., Nurkhin, A., Mukhibad, H., Anisykurlillah, I., & Wolor, C. (2020). Understanding the Employee's intention to use information system: Technology Acceptance Model and Information System Success Model Approach. *JAFEB*, 10(7), 1007-1013. <https://doi.org/10.13106/jafeb.2020.vol7.no10.1007>.
- Metzger, M., Flanagin, A., & Medders, R. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication*, 3(60), 413-439. <https://doi.org/10.1111/j.1460-2466.2010.01488.x>.
- Mehmet G., Ahmet G., Erkan I., Emmanuel M., & Serap S., (2018). Surprise me with your ads! the impact of guerrilla marketing in social media on brand image. *Asia Pacific Journal of Marketing and Logistics*, 1222-1238. doi 10.1108/apjml-10-2017-0257.
- Musa, A., Baharuddin, F., Antara, P., Idris, A., Selamat, S., & Abedin, N. (2023). agent trustworthiness, Electronic Word of Mouth (Ewom) and social media influencer roles in purchasing insurance: a conceptual paper. *IJARBSS*, 3(13). <https://doi.org/10.6007/ijarbss/v13-i3/16682>.
- Park, J., Hyun, H., & Thavisay, T. (2021). A study of antecedents and outcomes of social media WOM towards luxury brand purchase intention. *Journal of Retailing and Consumer Services*, 58. <https://doi.org/10.1016/j.jretconser.2020.102272>.
- Park, D., Lee, J., & Han, I. (2007). The effect of on-line consumer reviews on consumer purchasing intention: The moderating role of involvement. *International Journal of Electronic Commerce*, 4(11), 125-148. <https://doi.org/10.2753/jec1086-4415110405>.
- Perera, C., Nayak, R., & Long, N. (2019). The impact of Electronic-word-of Mouth on e-loyalty and consumers' e-purchase decision making process: A Social media perspective. *IJTEF*, 4(10), 85-91. <https://doi.org/10.18178/ijtef.2019.10.4.642>.
- Putra, H., Lestari, D. (2023). The influence of perceived service quality on purchase intention with trust plays a mediating role and perceived risk plays a moderating role in online shopping. *AJEBA*, 8(23), 64-80. <https://doi.org/10.9734/ajeaba/2023/v23i8956>.
- Putri, Y. (2023). The effect of Electronic Word of Mouth, destination image on tourist visiting decisions at Nagari Tuo Pariangan tourism object. *TIJAB*, 1(7), 104-114. <https://doi.org/10.20473/tijab.v7.i1.2023.43333>.
- Ruangkanjanases, A., Jeebjong, P., Sonata, N., & Sanny, L. (2021). E-wom and its impacts on purchasing behavior: a comparative study between thai and Indonesian millennials. *International Journal of Electronic Commerce Studies*, 12(1), 65. <https://doi.org/10.7903/ijecs.1893>.
- Sánchez Torres, J. A., Cañada, F. J. A., Moro, M. L. S., & Irurita, A. A. (2018). Impact of gender on the acceptance of electronic word-of-mouth (eWOM) information in Spain. *Contaduriay Administracion*, 63(4).
- Savolainen, R. (2021). Assessing the credibility of covid-19 vaccine mis/disinformation in online discussion. *Journal of Information Science*, 4(49), 1096-1110. <https://doi.org/10.1177/01655515211040653>.
- Shabbir, S. H., & Varshney, S. (2022). Investigating combined effect of WOM and eWOM: role of message valence. *Journal of Consumer Marketing*, 39(2), 180–190. <https://doi.org/10.1108/JCM-08-2020-4047>.
- Shaouf, A., Lü, K., & Li, X. (2016). The effect of web advertising visual design on online purchase intention: An examination across gender. *Computers in Human Behavior*, (60), 622-634. <https://doi.org/10.1016/j.chb.2016.02.090>.
- Solihin, D., Ahyani, A. (2022). The role of brand image in mediating the effect of Electronic Word of Mouth (E-wom) and social media on purchase intention. *Majalah Ilmiah Bijak*, 2(19), 193-205. <https://doi.org/10.31334/bijak.v19i2.2384>.
- Sugiran, H., Sulaiman, Z., Mas'od, A., & Hasbullah, N. (2022). price consciousness, deal and coupon proneness, E-wom and purchase intention on social commerce sites. *IJARBSS*, 9(12). <https://doi.org/10.6007/ijarbss/v12-i9/14689>.

- Tao, D., LeRouge, C., Smith, K., & Leo, G. (2017). Defining information quality into health websites: A conceptual framework of health website information quality for educated young adults. *JMIR Hum Factors*, 4(4). <https://doi.org/10.2196/humanfactors.6455>
- Tonder, E., Petzer, D., Vuuren, N., & Beer, L. (2018). Perceived value, relationship quality and positive wom intention in banking. *IJBM*, 7(36), 1347-1366. <https://doi.org/10.1108/ijbm-08-2017-0171>.
- Tutty, N., Uswatun, K., & Andika, D., H. (2023). How does digitizing the tax system increase taxpayer compliance? *Insight Journal*, 10(1), 96-110. <https://insightjournal.bpjiauitmcj.com/images/papers/Vol10Issue1.pdf>.
- Wei, H. and Leng, F. (2017). Research on influence of electronic word of mouth on consumers' purchase intentions. *Destech Transactions on Economics Business and Management, (ICEM)*. <https://doi.org/10.12783/dtem/icem2017/13097>.
- Xiao, L., Guo, F., Yu, F., & Liu, S. (2019). The effects of online shopping context cues on consumers' purchase intention for cross-border e-commerce sustainability. *Sustainability*, 11(10), 2777. <https://doi.org/10.3390/su11102777>.
- Yang, L., Li, L., Liu, L., Liao, M., Cao, Y., & Li, X. (2020). What prompt you to submit your resume? an empirical study. <https://doi.org/10.25236/icbdem.2020.062>.
- Ye, C. & Zheng, Y. (2017). A literature review of the influence of electronic word of-mouth on consumer purchase intention. *Open Journal of Business and Management*, 05(03), 543-549. <https://doi.org/10.4236/ojbm.2017.53047>.
- Yodpram, S. & Intalar, N. (2020). Conceptualizing ewom, brand image, and brand attitude on consumer's willingness to pay in the low-cost airline industry in Thailand. <https://doi.org/10.3390/proceedings2019039027>.
- Zárraga-Rodríguez, M., & Álvarez, M. (2015). Experience. *J. Data and Information Quality*, 2-3(6), 1-14. <https://doi.org/10.1145/2774223>.
- Zhu, L., Li, H., Wang, F., He, W., & Tian, Z. (2020). How online reviews affect purchase intention: A new model based on the stimulus-organism-response (s-o-r) framework. *AJIM*, 4(72), 463-488. <https://doi.org/10.1108/ajim-11-2019-0308>.
- Zheng, Z. (2023). Research On the social media marketing activities based on linear statistics, 53-60. https://doi.org/10.2991/978-94-6463-042-8_10.

THE DETERMINANTS OF COUNTERPRODUCTIVE WORK BEHAVIOUR: A CONCEPT PAPER

Dewi Muzalifah Zainal^{1*}, Nor Azairiah Fatimah Othman², Zuhaina Mustapa³ and Jamalunlaili Abdullah⁴

¹²Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Segamat Campus, 85000 Segamat, Johor, Malaysia

³Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia

⁴College of Built Environment, Universiti Teknologi MARA,
UiTM Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia

*Corresponding Author

Email: ¹dewikedewi@gmail.com, ²norazairiah@uitm.edu.my, ³zuhaina528@uitm.edu.my,
⁴jamal858@uitm.edu.my

Received: 5th December 2023

Accepted: 13th March 2024

ABSTRACT

For the past few years, counterproductive work behaviour (CWB) cases among workforces have been on the rise. Although CWB easily goes unnoticed in many organizations, absenteeism, sabotage and theft signified CWB at workplaces. Regardless of forms, CWB are harmful to the organization or fellow employees and undermine the goals and interests of a business. As present workplaces see spikes in CWB occurrences, many employers are fearful that their employees are much more likely to engage in any CWB which is why understanding the determinants of CWB is gaining importance. In relation to CWB, The Job Demands-Resources (JD-R) model has been repeatedly used in explaining the well-being and performance of employees in occupational settings. The objective of this paper is to provide an overview of the JD-R model, which incorporates workload as job demand, job control as job resources, job stress as strain and job engagement as motivation with CWB as the behavioural stress reaction. This study adds value to the existing knowledge by developing a conceptual understanding that determinants of CWB at workplace is context-specific from the manufacturing industry lens. To the fact employees are an important asset in today's increasingly competitive business environment, a review of counterproductive behaviour at the workplace is deemed appropriate.

Keywords: Counterproductive-Work Behaviour, Job Demands-Resources Model, Manufacturing

1.0 INTRODUCTION

Counterproductive-work behaviour (CWB) is on the rise around the globe and remains a substantial problem to all organizations worldwide. Based on the Department of Industrial Relation Malaysia, (2021) a total of 127 cases of misconduct involving 15,704 of manufacturing workers were reported. Misconduct at the workplace includes several types of behaviours that are counterproductive to the organization. Absence without notice, late attendance, leaving before time, violence and bribery are common behaviours that are out of

line with organization policy, against the legitimate interests of the organization and bring damage to productivity.

Workplace activity that is intentionally damaging to coworkers and the organisation is referred to as Counterproductive Work Behaviour (CWB) (Spector & Fox, 2005). Companies may suffer billion-dollar losses annually due to CWBs, which can have further negative consequences like lower worker productivity and a deterioration in the company's image (Cohen, 2016). CWB is voluntary behaviour that infringes on organizational norms and goals (Bennett Rebecca & Robinson, 1995). CWB involves deliberate action intended to harm the organization or organizational members (O'boyle et al., 2014). Examples of CWB are theft and misappropriation of a company's properties (Spector et al., 2006). In the case of CWB, it is generally accepted in many scholarly works that there must be some reasons or incidents that trigger a workforce's counterproductive behaviour which explains why some workforces are more likely to engage in CWB than the rest.

Despite noteworthy scholarly works in understanding CWB have been made regarding the varied determinants of CWB, one gap of CWB researches failed to consider context surrounding CWBs at workplace. This study belief the influence of workplace setting that form the context for CWB is worthwhile of investigation. This study reviews manufacturing industry to describe CWB phenomenon and defines CWB as the harmful behaviours perpetrated by the individual workforce at workplace. Drawing from the scholarly work of the Job Demands-Resources (JD-R) by Bakker and Demerouti (2007), this paper provides (i). overview on workload as job demand and job control as job resource influence associated with CWB, (ii). overview on the mediating effect of job stress as strain between workload-CWB relationship and (iii). overview on the mediating effect of job engagement as motivation between job control-CWB relationship.

2.0 COUNTERPRODUCTIVE WORK BEHAVIOR AT WORKPLACE

In reality, CWB in organizations could take place at the individual level, group level, departmental level or organizational level. Some forms of CWBs may even occur at a level higher than that of the organization to which certain types of CWB are common. Theft and sabotage (Spector et al., 2006) along with sexual advances and aggression (Gruys & Sackett, 2003) are among the counterproductive work behaviour (CWB) at work place that are harmful to both organizational member and their organization (Sackett & DeVore, 2002; Dalal, 2005). CWB causes harm to businesses, reduces trust in society, and ruins organisations. It is among the biggest issues facing organisations around the world (Bellora et al., 2021). In addition, according to Mehak et al. (2024) CWB hamper both organisational success and productivity. Organization bear billions of dollars on CWB. CWB has negative consequences and has economic and mental costs when the activities are executed with the organization. Theft and sabotage lead to economic costs which result from such behaviour. Socially, CWB has a cost on wellbeing of the organizational members' mental and physical health (Bowling & Beehr, 2006). According to Vardi and Weitz, (2004) the costs of all forms of CWBs are expected to be staggering in the future.

Anger, dissatisfaction, and frustration are more common among people who feel they are receiving unfair treatment. Reciprocity dictates that persons who are dissatisfied with their supervisor or employer may respond by engaging in negative work behaviours such as reducing their output, arriving late, taking longer breaks, or leaving early. In addition, people may act ineffectively towards their co-workers as a means of expressing their displeasure, such as by verbally assaulting them, playing cruel practical jokes on them, or even ruining their work. The democratic leadership style places a strong focus on cooperation, which has been demonstrated to reduce employee turnover and workplace violence. Alternatively, because of the apathy of the laissez-faire leadership style, workforces with this approach exhibited less intention to quit but more unproductive behaviour (Puni, 2016).

Withdrawal is the tendency of the workforce to avoid situations or surroundings that could aggravate him or cause him to feel negative feelings. The withdrawal sub-dimension has revealed a number of behaviours among the workforce, including turning up late for work, leaving early, and frequently abusing and prolonging breaks. Organisations have a stake in being able to predict the likelihood that their workforces or candidates will engage in these behaviours. Counterproductive Work Behaviour (CWB) is those that employees engage in that negatively impact the larger workplace environment. It may be difficult for organisations to pinpoint the exact causes of CWB because different circumstances necessitate different explanations and ways to communicate these behaviours.

3.0 THE PRESENT ATMOSPHERE OF ORGANIZATIONAL SETTING

Nowadays, working person leads a very stressful life when the amount of work to be done is growing immensely. Although in modern society all physical tasks are placed on machines, as businesses want to make the most money possible, workforces are subjected to cater heavy workloads and on duty over a long period. Stress at work is a person's reaction to the apprehensive tension effects of their work environment because of the tension in their minds (Raza et al., 2017) and is a psychological reaction to demands that are made beyond the capacity of the individual (Suroso et al., 2020). Anxiety and anger are common emotional reactions for workforces who are participating in voluntary harmful company-disrupting activities. Damaged psychological well-being is recognized by World Health Organization as among prominent reasons of decreased job involvement and nonattendance at workplace (Harnois & Gabriel, 2000). (Hassan et al., 2023) in his study discovered a significant positive correlation between staff tiredness and CWB. The results suggest that emotionally fatigued individuals are likely to engage in CWB at the workplace.

4.0 THE JOB DEMANDS-RESOURCES (JD-R) MODEL

Despite existing scholars have argued a variety of factors likely affect CWB of individual employees, this concept paper utilizes Job Demands-Resources (JD-R) model as overarching theoretical lens for understanding CWB at manufacturing industry. This study defines CWB as the harmful behaviours perpetrated by the individual workforce at workplace. JD-R model is chosen as the theoretical underpinning to understand CWB among employees because the model is often used to understand "how the work environment affects well-being and performance" (Bakker & Demerouti, 2007), thus model captures the pivotal role the workplace environment plays in the emergence of CWB at organizational setting.

JD-R model proposes that job characteristics can be classified into job demands and job resources, each activating different processes (Demerouti et al., 2001) as shown in Figure 1 below. Job demands involving features of the job that call for sustained effort; meanwhile, job resources involving features of the job that assisting in achieving the work-related goals (Demerouti et al., 2001). According to JD-R model, job demands lead to a health-impairment process, while resources lead to a motivational process. At the end of the day, job strain leads to negative outcomes, meanwhile motivation leads to positive outcomes.

Unifying the two research traditions, the work demands and resources (JD-R) hypothesis explains how these elements have unique and additive effects on motivation and job stress. Reversed causal effects are also suggested by the JD-R theory: Engaged workers utilise their employment resources to stay active (Bakker & Demerouti, 2014). Citing Herzberg et al. (1959) study on the two-factor approach, Bakker and Demerouti, (2014) found that health considerations and motivational elements are two different sets of qualities that influence workforce satisfaction and motivation. The workforce is said to feel better about their jobs when they have the motivational aspects, commonly referred to as job satisfaction.

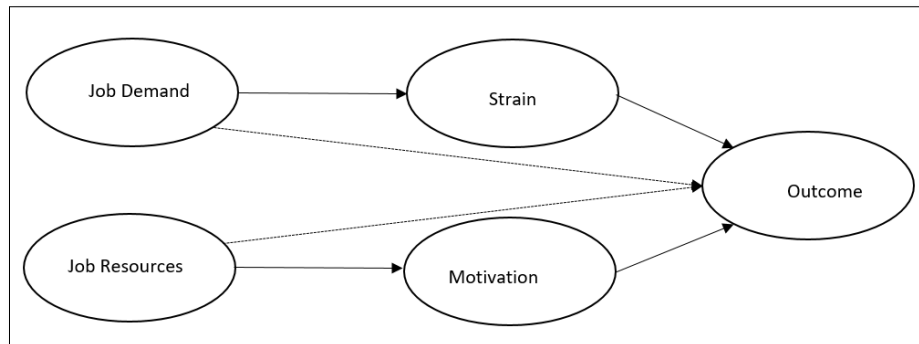


Fig. 1: *The Job Demands-Resources Model*

4.1 Job Demand and Job Resources as Determinants of Counterproductive Work Behaviour

Firstly, the model helps in providing theoretical explanations on corresponding determinants of CWB. Job demand at workplace can create negative health impairment to employees as an adaptive response to a condition that is being perceived as a challenge to workforce's health. Meanwhile job resources can create positive motivation as reaction to a situation that is supportive to perform the job. The model proposes that availability of job resources can help to lessen the negative effects of job demands and the negative consequences of job demand can reduce the extent to which employees have sufficient resources to perform their job. Accordingly, JD-R model is deemed as suitable to understand what trigger violation towards standard of behaviour among employees at workplace.

This paper adopts workload as job demand and job control as job resource to describe counterproductive-work behaviour phenomena. According to research by Bakker et al. (2004), specific types of workplace deviations, such as absenteeism, are directly impacted by workload. However, according to (Siswanto et al., 2019), workload does not have one obvious effect on an employee's performance. One of the elements that can impact the association between perceived working hours and overall stress is called job control (Kim, 2014). Job control is crucial in affecting employee workload and stress directly or indirectly (Portoghese et al., 2014). At times, employees' perception of decisions is due to a lack of job control, leading to feeling as though they have little or no control over what they do, which also means that they have little influence over what occurs at work (Portoghese et al., 2014). Stress and job control have been proven to be significantly correlated in several workplace settings (Schmitt, 2019).

4.2 The Mediating Effect of Strain between Job Demand and CWB

Secondly, the model helps in explaining the mediating effects of strain between job demand and CWB. JD-R model claims that CWB are product of job demand mediated by strain. According to Bakker et al., (2011), job demands are requirements that must be fulfilled and so necessitate exerting both physical and mental energy, resulting in strain. Furthermore, higher work expectations necessitate greater mental effort, which stresses out employees and makes them feel burned out, which in turn leads to absenteeism. Burnout symptoms such as emotional depletion are brought on by workplace stress, and counterproductive work conduct is a behavioural response to job-related stress (Fatima Makhdoom et al., 2019). Leiter et al., (2003) found that depersonalisation and emotional weariness were more strongly connected with work-related stress and resources than they were with personal achievement. In addition, a poor work environment is also thought to increase stress (Jimmy et. al, 2023).

To investigate all postulated relationships between job demands, job resources, and job stress simultaneously, Demerouti et al. (2001) began developing a structural equation model. The JD-R model examined cynicism and burnout in both individuals and organisations, and it found both positive and negative relationships between resources and job demands that lead to stress and burnout at work. How work-related stress is linked to abuse, sabotage, and withdrawal can be better understood by closely analysing causal thinking (Douglas & Martinko, 2001). It contends that when unpleasant situations are attributed to internal reasons, it often results in negative feelings about oneself. It suggests that a workforce's emotional reactions are determined by the locus of causation, and these reactions eventually influence the workforce's decision to commit CWB.

This paper adopts job stress as strain to describe counterproductive-work behaviour phenomena. Job stress is a phenomenon that results from a specific job, workplace, or work circumstance that makes people feel ill, uncomfortable, or uptight (Beehr & Franz, (1987) as cited in Suroso et al., 2020). Job stress occurs as an employee is unable to meet the demands of their position, and this causes a condition of physical and mental imbalance that results in a stressful environment. Since there is many form of strain, the relationships between specific kind of strain and CWB must be borne out an understanding to what extent does strain relate to job demand and CWB.

4.3 The Mediating Effect of Motivation between Job Control and CWB

Thirdly, the model helps in explaining the mediating effects of motivation between job control and CWB. JD-R model claims that CWB are product of job control mediated by motivation. Motivation helps people to work harder by following applicable procedures and meet the target standards that have been defined (Novita et al., 2023). This paper adopts job engagement as motivation to describe counterproductive work behaviour phenomena. The job engagement focuses on the positive aspects of an employee work. The length of time someone can sustain their efforts is a measure of their motivation (Novita et al., 2023). It is employee readiness and aptitude to help their company succeed, mostly in providing discretionary effort on a sustainable basis (Wahyu Ariani, 2013).

Employees who participate in CWB are less likely to be fully engaged in their work and that they are less productive (Sulea et al., 2012). Internal work motivation and job engagement are connected ideas, according to (Phan, 2007) study, because persons who are internally motivated to finish tasks are more likely to be involved in the tasks they carry out. In addition, he contends that even though job control correlates positively with job engagement, it correlates negatively with job stress. Wahyu Ariani, (2013) states that, when employees have negative perceptions of their work environments, they are more prone to engage in CWB. Job engagement, being a good affective state, should be inversely correlated with CWB.

5.0 RESEARCH DESIGN

This conceptual paper reviews the phenomenon of counterproductive work behaviour. Accordingly, the study is reviewing and synthesizing existing literature towards developing a comprehensive understanding of counterproductive work behaviour among workforces in the context of manufacturing industry. To begin with, this study conducted a comprehensive literature review on reputable scholarly articles and publications related to of counterproductive work behaviour to identify key concepts and relevant theories. Subsequently, relevant theories, concepts, and empirical evidence are analysed and integrated to provide a conceptual framework for understanding and analysing the phenomenon.

6.0 DATA ANALYSIS

For a conceptual paper, data is derived from the literature review and existing theories obtained from scholarly articles, books, reports, and other relevant publications that enable a comprehensive analysis of the studied topic.

7.0 DISCUSSION OF COUNTERPRODUCTIVE WORK BEHAVIOUR IN THE MANUFACTURING INDUSTRY

One of the most frequent workplace disagreements that has a detrimental effect on the company and frequently results in trade dispute suits in industrial court is counterproductive work behaviour, or CWB. Puni, (2016) found that workers in industrial production exhibited detrimental working behaviours. Theft, harassment at work, absenteeism, tardiness and workplace bullying are examples of CWB in industry. According to Fox et al., (2001) and Spector et al., (2006) the reason why manufacturing workers commit CWB remains unanswered, given that individual's CWB can negatively impact organizational performance, produce losses, induce fear among coworkers, and increase workplace stress. According to Lexis Advance Malaysia Research (2023) there are a variety of reasons why people participate in counterproductive work behaviour (CWB). Kwon et al., (2020) propose a comprehensive conceptual framework that improves upon the JD-R model and, in doing so, more effectively explains the dynamics pertaining to employee engagement and innovative behaviour.

Malaysia is fourth-placed among Asian countries for manufacturing hubs, ahead of China, Japan, Vietnam, and India, according to KPMG's Cost of Doing Business Index Hui-Nee Au-Yong et al., 2023 (as cited KPMG Malaysia, 2020). A total of 2,215,420 workers were working in the manufacturing sector in August 2021, up 1.2% from 2,190,787 workers in the same month the previous year. In August 2020, salaries and wages paid totalled RM124.4 million, a 6.5% increase over the same month the previous year (DOSM, 2023). There are over 2.3 million skilled and unskilled workers in the manufacturing industry as of March 2023, up 2.8% from the previous year (DOSM, 2023). Current data shows that the manufacturing sector is experiencing a wide range of trade conflicts. A trade dispute is defined as "any dispute relating to employment or non-employment, terms of employment, or working conditions of any such workmen between an employer and his workers" (Hannan Nur et al., 2011).

The Industrial Relations Act 1967 (IRA) is the legislative framework that governs trade disputes in Malaysia. Compared to other important industries in Malaysia the manufacturing sector had the highest number of trade disputes in 2021, with 127 cases and 15,704 workers affected (Department of Industrial Relation Malaysia, 2021). Despite high number of trade disputes, not much research was conducted on CWB in the manufacturing industry and considerable gap exists. Perhaps by analysing the CWB in the manufacturing industry using the JD-R model will allow manufacturing organizations to tackle and reduce the CWB more effectively. This is especially since the JD-R model evaluates both job demand and job resource and determines causal relationship among the variables.

8.0 IMPLICATION

This study makes an important contribution to the extended understanding of CWB by grounding to the fact that CWB is context-specific. This study argues that most scholarly work of CWB is rather individualized and not in accordance to context-specific perspective. Every sector/industry might have specific deliberate counterproductive behaviour that detriment the organization, each may vary in severity along with underlying motivation. Expanding CWB beyond individual perspective towards sectoral/industrial ground may lead to identification of new predictors enacted CWB. This study pays greater attention to the broader lens of CWB by providing a much-needed review of the industrial level CWB.

9.0 CONCLUSION

Despite countless scholarly works of CWBs, the dependence on generic determinants of employee counterproductive behaviours cut across industry reflects a gap in existing research. The current paper addresses three important yet generally overlooked issues regarding CWB at the industrial level as most scholarly work on CWB focuses on an individual level. This study adds value to the existing knowledge on counterproductive work behaviour by developing a conceptual understanding that determinants of CWB at the workplace is context-specific by organizational nature; thus, it has limited generalizability to other settings. Accordingly, it is advisable that each employer and employees foresees CWB within the organization as consequences from specific workforces-workplace interaction. A more detailed CWB research within the manufacturing industry needs to be conducted to understand the context better. Since it is common for any organization, regardless of the size, to run into counterproductive work behaviour at work setting, this study argues that CWB at the workplace is context-specific, demanding understanding why employees behave in a way that is counter-productive within the context of their work.

10.0 SUGGESTION FOR FUTURE RESEARCH

This study reviews CWB in the context of the manufacturing industry to proposes the possibility of different determinants to CWB. This study argues different industry encompasses different kinds of workforces-workplace interaction, thus leading to different determinants of counterproductive work behaviour. However, much more remains to be done and further research is still needed. Align to Bowling & Gruys (2010) proposal that further CWB research investigating beyond the individual employee level, this paper suggests that future researchers to conduct a more in-depth study on contributing factors towards CWB at industry level as the new direction.

CO-AUTHORS' CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. Author1 carried out the review of literature about counterproductive work behaviour in bigger picture. Author 2 carried out the review of literature on JD-R model. Author 3 reviewed literature specific to counterproductive work behaviour in manufacturing industry. Author 4 overlooked the write-up of the whole article.

ACKNOWLEDGEMENTS

There is no research grant obtained to sponsor this work. This article is submitted in partial fulfilment of the requirements for the master degree of one of the authors.

REFERENCES

- Cohen, A. (2016). Are they among us? A conceptual framework of the relationship between the dark triad personality and counterproductive work behaviors (CWBs). *Human Resource Management Review*, 26, 69–85. <https://doi.org/10.1016/j.hrmr.2015.07.003>.
- Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, 20(1), 4–28. <https://doi.org/10.1080/1359432X.2010.485352>.

- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/02683940710733115>.
- Bakker, A. B., & Demerouti, E. (2014). Job demands-resources theory. In *Wellbeing* (pp. 1–28). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118539415.wbwell019>.
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management*, 43(1), 83–104. <https://doi.org/10.1002/hrm.20004>.
- Bellora-Bienengraber, L. ;, Radtke, R. R. ;, Widener, S. K., Bellora-Bienengr, L., Aber, & Radtke, R. R. (2021). Counterproductive work behaviors and work climate: The role of an ethically focused management control system and peers' self-focused behavior. *Accounting, Organizations, and Society*. <https://doi.org/10.1016/j.aos.2021.101275>.
- Demerouti, E., Profile, S., De Jonge, J., Schaufeli, W. B., & Leuven, K. U. (2001). Burnout and engagement at work as a function of demands and control. *Researchgate.Net*. <https://doi.org/10.5271/sjweh.615>.
- Department of Industrial Relation Malaysia. (2021). Statistics & Key Indicators (2021st ed.). *Kementerian Sumber Manusia*. https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=91&bul_id=T3JxclgvSWxWMGx0VjE5dGQ4YUdhdz09&menu_id=SjgwNXdiM0JIT3Q2TDBIWXdkdUVldz09.
- Department of Statistics Malaysia Official Portal. (n.d.). https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=91&bul_id=T3JxclgvSWxWMGx0VjE5dGQ4YUdhdz09&menu_id=SjgwNXdiM0JIT3Q2TDBIWXdkdUVldz09.
- Douglas, S. C., & Martinko, M. J. (2001). Exploring the role of individual differences in the prediction of workplace aggression. *Journal of Applied Psychology*, 86(4), 547.
- Fatima Makhdoom, I., Atta, M., Iqbal Malik, N., Professor, A., & Professor, A. (2019). Counterproductive work behaviors as an outcome of job burnout among high school teachers. 41(2), 79–92.
- Fox, S., Spector, P., behavior, D. M.-J. of vocational, & 2001, undefined. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Elsevier*, 59, 291–309. <https://doi.org/10.1006/jvbe.2001.1803>.
- Gruys, M. L., & Sackett, P. R. (2003). Investigating the dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11(1), 30–42. <https://doi.org/10.1111/1468-2389.00224>.
- Hannan Nur, I., Najwa Nadiatul, J., & Balqis Shafiqah, A. (2011). A review on the application of conciliation and mediation in trade disputes in Malaysia. *ProQuest*, 1–1. <http://www.lawverment.com.mv/library/doc/empl/1000000-2.shtml>.
- Hassan, A., & Ahmed Siddiqui, D. (2021). *Envy, counterproductive work behavior, and wellbeing: the role of employee exhaustion complemented by LMX*. <https://doi.org/DOI:10.2139/ssrn.3942287>.
- Hui-Nee Au-Yong, Vikneswari V. K., & Thavamalar. G. (2023). Research on Malaysia's science and technology innovation policy: R&D and investment in the manufacturing sector. *Insight Journal*, 10(1), 1–5.
- J. Bennett Rebecca, & Robinson, S. L. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management*, 38(2), 555–572. <https://doi.org/10.2307/256693>.

- Jimmy S. Hadi, & Ahmad Adriansyah. (2023). Effect of compensation, working condition and burnout on turnover intention: palm oil plantation in east Kalimantan Indonesia case. *Insight Journal*, 10(1), 1–8.
- Kim, S. (2014). *Relationships among perceived working hours, general stress, work centrality, job control, job demands, and work condition constraints*. <https://oaktrust.library.tamu.edu/handle/1969.1/153346>.
- Kwon, K. (2020). An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Elsevier*. <https://www.sciencedirect.com/science/article/pii/S1053482218305278>.
- Leiter, M. P., & Maslach Christina. (2003). Areas of worklife: A structured approach to organizational predictors of job burnout. *Occupational Stress and Well Being*, 3, 91–134. [https://doi.org/10.1016/S1479-3555\(03\)03003-8](https://doi.org/10.1016/S1479-3555(03)03003-8).
- Lexis Advance Malaysia Research. (2023). *Misconducts at workplace*. <https://advance-lexis-com.ezaccess.library.uitm.edu.my/search/?pdmfid=1522468&crd=aca5ee2c-92f8-4788-a43f-3d99446aa4c1&pdsearchterms=misconduct+w%2Fs+workplace&pdicsfeatureid=1521734&pdstartin=hlct%3A1%3A46&pdcaseshlctselectedbyuser=false&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdqtype=or&pdpsf=his%3A1%3A1&pdquerytemplateid=&comp=kmg4k&earg=pdpsf&priid=9065e734-8dc6-4488-934d-28ff2c26dff3>.
- Mehak M., Bei L., Sami U., Muhammad T. K., Ali Z. U. A., & Mohit K. (2024). Abusive supervisor triggers counterproductive work behaviors in nursing staff: role of psychological contract breach and Islamic work ethics. *Leadership & Organization Development*, 1–17.
- Novita S., Dewisriwoelandari G., & Heni R. (2023). Discipline, motivation, and job satisfaction on employee performance at PT XX. *Insight Journal*, 10(1), 1–15.
- O'boyle, E. H., Forsyth, D. R., Banks, G. C., Story, P. A., White, C. D., & O'boyle, E. H. (2014). A meta-analytic test of redundancy and relative importance of the dark triad and five-factor model of personality. *Jepson School of Leadership Studies Articles, Book Chapters and Other Publication*, 83(6), 158. <https://doi.org/10.1111/jopy.12126>.
- Phan, T.-T. (2007). *Predictors of job engagement with extraversion as the moderating variable*. [Master's Theses]. <https://doi.org/DOI:https://doi.org/10.31979/etd.d72m-bsu7>.
- Portoghese, I., Galletta, M., Coppola, R. C., Finco, G., & Campagna, M. (2014). Burnout and workload among health care workers: The moderating role of job control. *Safety and Health at Work*, 5(3), 152–157. <https://doi.org/10.1016/j.shaw.2014.05.004>.
- Puni, A. (2016). *Leadership styles, employee turnover intentions, and counterproductive work behaviors the essential competencies of cross-cultural management: a critical review view project leadership styles, employee turnover intentions, and counterproductive work behaviors*. <https://www.researchgate.net/publication/290797675>.
- Raza, S., Sajjad Hussain, M., Azeem, M., Ul Ain Ansari, N., & Aziz, K. (2017). Workload, work stress, role conflict, and workplace deviant behaviour in banks: An empirical analysis. *European-Science.Com*, 6(4), 701–707. <https://european-science.com/eojnss/article/view/5234>.
- Reeshad S. Dalal. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Applied Psychology*, 90(6), 1241–1255. <https://doi.org/DOI:10.1037/0021-9010.90.6.1241>.
- Sackett, P., & DeVore, C. (2002). *Counterproductive behaviors at work*. <https://psycnet.apa.org/record/2003-00437-008>.

- Schmitt, H. (2019). *Job demands, job control, and social support on burnout: Why type matters.*
<https://search.proquest.com/openview/6171f77d8973bc8ceb17f87a1baf9384/1?pq-origsite=gscholar&cbl=18750&diss=y>.
- Siswanto, S., Supriyanto, A. S., Ni'mah, U., Asnawi, N., & Wekke, I. S. (2019). Does a workload influence the performance of bank employees? *Management Science Letters*, 9(5), 639–650. <https://doi.org/10.5267/j.msl.2019.2.007>.
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., Kessler, S., & Spector, P. E. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Vocational Behavior*, 68, 446–460. <https://doi.org/10.1016/j.jvb.2005.10.005>.
- Spector, P., & Fox, S. (2005). *The Stressor-emotion model of counterproductive work behavior.* <https://psycnet.apa.org/record/2004-19514-007>.
- Sulea, C., Virga, D., Maricutoiu, L. P., Schaufeli, W., Zaborila Dumitru, C., & Sava, F. A. (2012). Work engagement as mediator between job characteristics and positive and negative extra-role behaviors. *Career Development International*, 17(3), 188–207. <https://doi.org/10.1108/13620431211241054>.
- Suroso, A., Gal, T. & Stress, A. A.-W. (2020). *Work stress and counterproductive work behavior.*
https://www.ijicc.net/images/Vol_14/Iss_12/15472_Anggraeni_2020_E1_R1.pdf.
- Wahyu Ariani, D. (2013). The relationship between employee engagement, organizational citizenship behavior, and counterproductive work behavior. *International Journal of Business Administration*, 4(2), 46–56. <https://doi.org/10.5430/ijba.v4n2p46>.

GREEN VEHICLE ADOPTIONS AND ITS IMPEDIMENTS: A BIBLIOMETRIC REVIEW

Zanariah Zakaria^{1*}, Ahmad Razi Ramli², Norashikin Ismail³

^{1,2}*Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Shah Alam Campus, 40450 Shah Alam, Selangor, Malaysia*

³*Faculty of Business and Management, Universiti Teknologi MARA,
UiTM Johor Campus Segamat, 85000 Segamat, Johor, Malaysia*

*Corresponding Author

Email : ¹zanariahbintizakaria@gmail.com, ²ahmadrazi@uitm.edu.my, ³noras479@uitm.edu.my

Received: 11th January 2023

Accepted: 30th January 2024

ABSTRACT

A green vehicle produces considerably lower emissions than conventional internal combustion engine vehicles, playing a crucial role in fulfilling global commitments to combat climate change. Despite its environmental benefits, consumer adoption is far below expectations. This study addresses this issue by exploring recent publications that highlight challenges in the adoption of green vehicles. The paper aims to analyse and present findings from published documents on green vehicles, utilizing data sourced from the Scopus database. To this end, this paper contributes to the extant literature on green vehicle adoption and its impediments by assessing the publication trends and network visualization leveraging the bibliometric analysis method. Meanwhile, key research clusters are outlined and visualized to analyse the underlying knowledge structure. The 347 articles collected from the Scopus database were later analysed using bibliometric tools, VOSviewer, and Harzing's Publish or Perish. The results presented in this paper assist researchers with a structured understanding and knowledge of green vehicle adoption research and its impediments.

Keywords: Bibliometric, Green Vehicle, Impediments

1.0 INTRODUCTION

Transportation plays an important role as mode of mobility in our daily life. People rely on transport to get them to their businesses, home, and workplaces every day. While undoubtedly vital, the transportation sector contributes more than 24 percent of total carbon dioxide (CO₂) emission, with road transport being the largest emitter (IEA, 2020). The road transport emission and environmental effects continued to be significant due to the fossil fuel burning process derived from conventional internal combustion engine (ICE) vehicle as this ICE or non-green vehicle had dominated the global market. As private vehicle demand increases, the consumption of petrol and diesel also simultaneously increase which will certainly increase the CO₂ emission further. Therefore, alternatives to green vehicles have been considered as an important strategy to reduce public's reliance on fossil fuel and subsequently achieving CO₂ mitigation target (Gulzari et al., 2022; Zhang & Fujimori, 2020).

The road passenger vehicles that run either on battery or electricity are known as a green vehicle, clean vehicle, eco-friendly vehicle, or an environmental-friendly vehicle, categorized

as hybrid vehicle, plug-in hybrid vehicle, and battery electric vehicle. Several countries refer to green vehicles as vehicles that meet or surpassing the stringent European Emission Standards (such as EURO 6) or the low-carbon fuel standards (EPA, 2021). Green vehicles are expected to produce less negative environmental effects, leading to significant health as well as considered as viable option in sustaining the urban road transportation through the reduction of fossil-fuel dependence (Wu et al., 2019). Study by Asadi et al. (2021) indicated that green vehicles can reduce 30 to 50 percent of CO₂ emission and increase 40 to 60 percent in fuel efficiency compared to the conventional fuels' vehicles. As a result, through various legislations, most countries are shifting from conventional oil-based ICE technologies to electric motor-operated vehicles, and hence the automakers are also driven to manufacture varieties of green vehicle models (Vitta, 2021). This implies that the widespread adoption of green vehicles is a sustainable way of improving environmental, economic, and energy concerns in road transportation.

The Adroit Market Research (2021) forecasted that the green vehicles market will hit USD 802.81 billion market value by 2028, with a compound annual growth rate of 22.6 percent from 2021 and 2028. In the United States alone, there are more than 1.5 million electric vehicles on the road as of August 2020, as reported by the Edison Electric Institute. The market is expanding due to the increasing demand for fuel-efficient, high-performing, and low carbon vehicles. Despite the fact that the number of green vehicles on the road has increased dramatically, this industry indicates that it has barely scratched the surface. The truth is the adoption of green vehicles is only about 1 percent globally and it is even lower in some developed countries like Australia (Foley et al., 2020). The slow uptake of green vehicles can be associated to a range of key barriers that ultimately result in low consumer confidence and affordability. According to Gulzari et al. (2022), factors such as higher purchasing cost, limited power and control features, and incomplete after-sales support facilities are some of the element that make consumers to have a wait-and-see attitude in the green vehicle market. Furthermore, individual attitudes and customer trust are also positively significant in influencing the intention to purchase green products (Azizan et al., 2022; Musa et al., 2023).

Numerous reviews have been conducted to build a comprehensive overview of the literature on green vehicles. These reviews vary significantly in their focuses, geographic scope, the numbers of papers examined, and the observed time periods. Noteworthy reviews addressing global electric vehicle have highlighted key research trends and performance insight (Hu et al., 2014). Other reviews focused into specific areas such as the performance and trends of autonomous vehicle (Gandia et al., 2019), carbon emissions in the transportation sector (Tian et al., 2018), and suitable business models for electric cars (Secinaro et al., 2020). Motivated from the studies by Meyer (2020) on decarbonization efforts in road freight transportation, current research directions emphasize technological innovations such as alternative fuel or electrification and sectoral economic developments. Additionally, Qin et al. (2022) identifies environmental challenges as a crucial determinant of green energy adoption. Despite this, there are limited studies focusing on the factors affecting the low demand of green vehicles.

To bridge this research gap and offer an objective review of green vehicle adoption, this paper employs bibliometric and network analysis. These analytical tools aim to provide a comprehensive overview of the literature, to give greater insights into past, current, and future research endeavours. This paper has twofold objectives. Firstly, it aims to scrutinize the trends and productivity of research on the adoption of green vehicle through a bibliometric approach. The bibliometric analysis method involves analysing compiled data from keywords analyses, sorting them based on document and source type, year of publication, language, subject area, and most active source title, as well as conducting authorship and co-citation analyses. To accommodate the present study, documents from the years 2000 to 2021 were chosen to be analysed using the bibliometric analysis. The second objective is to identify the key barriers impeding the adoptions of green vehicles, supported by content analysis. This research

conducted a comprehensive bibliometric analysis of published green vehicle adoption research, addressing three main research questions: (a) the evolution and distribution of green vehicle adoption research, including the number of studies per year, sources and document types, and languages of documents; (b) the key areas discussed in green vehicle adoption publications, encompassing subject areas, sources titles, and the frequency of keywords; and (c) the major players in green vehicles adoption research and their collaborations, examining countries with the most contributions, institutions with the highest involvement, the most active authors, citation analysis, and authorship analysis.

The remainder of the paper is structured as follows: *Section 2* presents the research methodology and sample identification; *Section 3* present the results, *Section 4* discuss about the findings, and *Section 5* concludes the study and provides recommendations for future research.

2.0 RESEARCH METHODOLOGY

The aims of this paper are to trace and monitor the research activities and dynamics related to green vehicles' adoptions, and further reveal the barriers of adoption of green vehicles using bibliometric review method. The bibliometric and network analysis in this paper review the green vehicles' adoption and its impediments more objectively, and provide a thorough literature overview, and greater insight into past, current, and future research. In this study, results are presented using network visualization and bibliometric indicators.

2.1 Bibliometric Analysis

In the early 20th century scholars started analysing collection of data using bibliometric methods (Zhou et al., 2018). Bibliometrics is a subfield of informetric; where the term "informetrics" is a broad term comprising all metrics studies related to information science, including scientometrics, cybermetrics, webometrics, and bibliometrics. The bibliometric analysis study extensively applied to measure the productivity of research through the publication trend, evaluating its impact based on some metrics, and visualizing and mapping the literature based on particular networks analyses (Ahmi & Mohamad, 2019; Zyoud et al., 2017). Bibliometric studies are based on statistical analysis expedited through the review of databases focused on indicators inherent in publications such as authors, sources, geographical distributions, and other varied indicators. Through a transparent and reproducible review process, the result of bibliometric analysis is reliability guaranteed. The subjective bias of the review can be resolved by relying on objective evaluations derived from the software program (Bretas & Alon, 2021). Furthermore, Zhang et al. (2021) agree that the advanced bibliometric review alleviates the literature sampling pressure as this method is not limited by time and data samples.

The bibliometric analysis that includes the network citation analysis is a powerful means for various study fields or disciplines, which are difficult to summarize by traditional review method. This study gives insights into focused research areas by showing detailed information about the collection of publications from specific databases such as publication type, location of publication, h-index, authors, keywords frequency, and the number of citations. There are many tools to analyse the bibliometric data and some of the software tools used in the existing literature includes CiteNetExplorer (Zhang et al., 2021), Bibliometrix (and Biblioshiny) (Aria & Cuccurullo, 2017), CiteSpace (Chen, 2006), VOSviewer (Jan van Eck & Waltman, 2010), and so on.

2.2 Data Source and Collection

As this study employed bibliometric analysis method to identify the main research domain variables in a short time, and contribute towards integrating these elements into the literature,

a bibliographic database must first be selected. In this study, the Scopus database was chosen over the Web of Science database. Both Scopus and Web of Science are the most prominent sources of academic works and each have a reasonably homogeneous and complete bibliographic information record of publications (Vieira & Gomes, 2009). Nevertheless, each database have their own custom bibliographic records, forcing most of the systematic review authors to choose either one of the databases with Scopus found to be 60 percent larger in terms of literature range coverage compared to the Web of Science (Meyer, 2020). As a multidisciplinary database that is suitable for systematic quantitative literature review, Scopus includes the Institute for Scientific Information and Scopus-indexed and ranked papers (Secinaro et al., 2020). Moreover, bibliographic information in Scopus can be further extracted into Research Information System (RIS) format which is particularly suitable for post data processing software such as VOSviewer hence, this study utilized the Scopus database.

Upon deciding which database is more suitable, the next process is data collection strategy and organization. For this bibliometric review, the study followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines for the operational terms search as presented in Fig. 1 (Zakaria et al., 2021). PRISMA guidelines set up a flowchart covering three steps; identification, screening, and inclusion. For the identification step, different combinations of the key terms “green vehicle” and “impediment” were used to identify the boundary of the field for this study. To form the final query string, i.e., (“green vehicle” OR “green car” OR “electric vehicle” OR “electric car” OR “hybrid vehicle” OR “hybrid car” OR “non-internal combustion engine vehicle” OR “non-internal combustion engine car” OR “energy efficient car” OR “energy efficient vehicle” OR “non-fossil-fuel vehicle” OR “non-fossil-fuel car”) AND (“barrier” OR “challenge” OR “impediment” OR “obstacle”)), the combination of the defined terms, the Boolean operator and retrieval types were applied. Through the Scopus database, a total of 347 publications record were retrieved on February 16, 2022. To complete the screening and inclusion steps, some data preprocessing work was done. Article published before the year 2000 has been excluded from this analysis as this topic only draws the public’s attention around the start of the 21st century. As a final result, 320 screened literature data were identified and further analysed comprehensively using Harzing’s Publish and Perish and, VOSviewer tools.

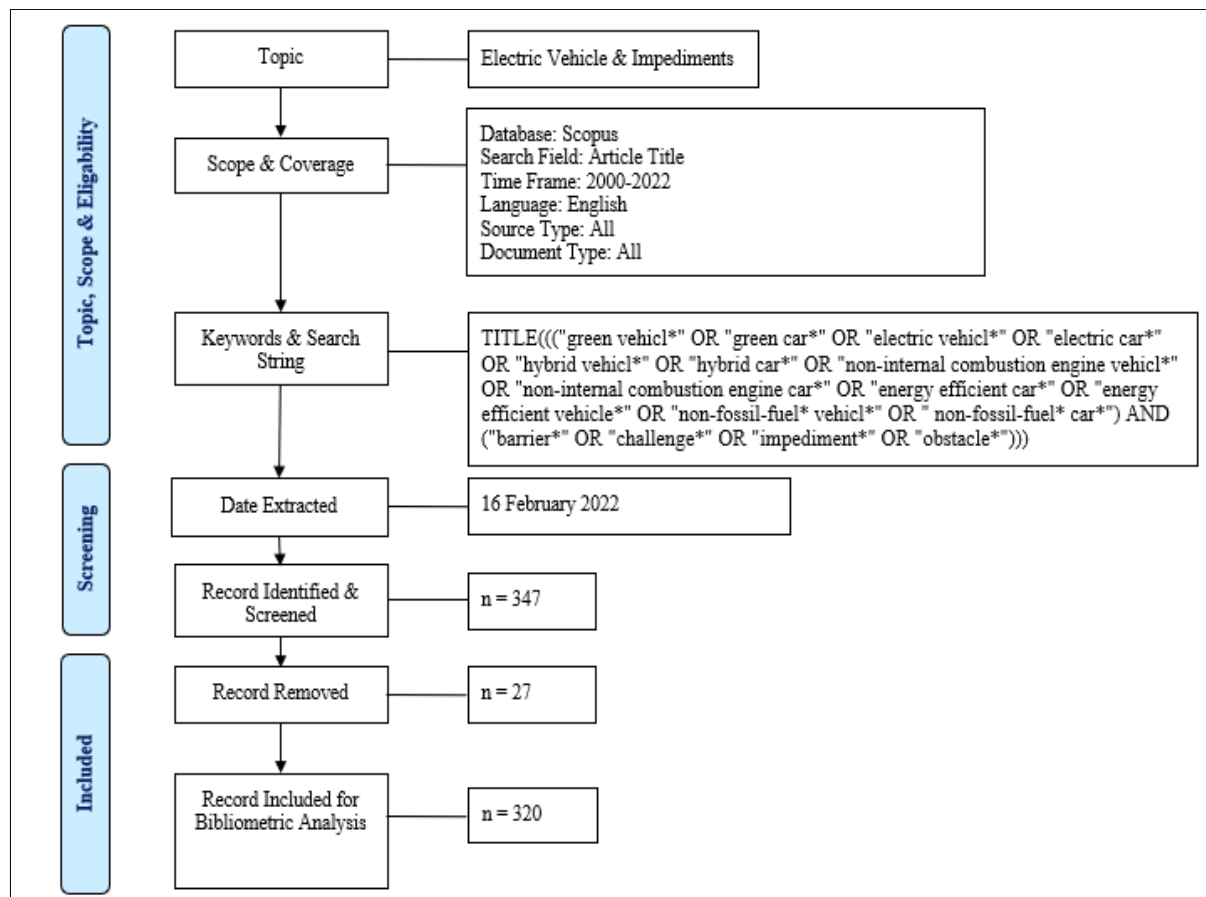


Fig. 1 PRISMA Flow Diagram

2.3 Analysis Strategies

For this bibliometric review, we used VOSViewer and Harzing's Publish or Perish tools to analyze data. A freely-available software, VOSViewer helps in constructing, visualizing, and building the networks relationship by mapping citation data extracted from many reputable database including Scopus (Anuar et al., 2022). To graphically visualize the nodal network, VOSViewer put the number and total strength of the link as their standard weight. The size of the nodes and the intertwining lines linking the nodes denote the significance and strength of the links (Donthu et al., 2020). Also, VOSViewer visualized the networks co-occurrence based on the terms extracted from the literature review. The software obliges a threshold signifying the least number of keywords that must be demonstrated together in a paper (Ciano et al., 2019). Another tool used for this bibliometric study is Harzing's Publish or Perish. This software performs the activity of retrieving and analyzing academic citations. By inputting the bibliographic data from Scopus into both VOSViewer and Harzing's Publish or Perish tools, further review on the impact of publications based on citation counts, impact per publication, and citation per publication can be performed.

3.0 FINDINGS

In this section, we devised the intellectual landscape of green vehicle adoption publications, wherein three parts provide an answer to the research question stated. It begins with the evolution and distribution of the green vehicle adoption publications, and valuable insights are accessed from the publication year, document types and source types, and language of the document. Meanwhile, the key areas of the green vehicle adoption are presented by subject

area, source title, and frequency of keywords. These objective findings highlight the contributions of the study components to the green vehicle adoption publications. Apart from the above purpose, science mapping also focuses on the research collaboration among the green vehicle adoptions research. Countries and institutions with the most contributions are pointed out as the major players in the publication of green vehicle adoption. The knowledge structure and publications connections are effectively revealed by using citation analysis, authorship analysis, and co-citation analysis. Thus, by conducting this bibliometric analysis, the evolutionary trends, and knowledge mapping with regard to the adoption of green vehicle field are discovered and visualized. At the end, we extracted and screened the impediments of green vehicles adoption assisted by a clustering algorithm in the VOSviewer software to visualize the in-depth content of this analysis.

3.1 Evolution and Distribution of Green Vehicles' Adoption Publications

To meet the first objective, a performance analysis encompassing publications per year, publication language, document types and source type were evaluated to explore the contributions of the research constituents to the green vehicle adoption publications.

3.1.1 Number of Published Studies per Year

Table 1 summarizes the statistics of annual publications on green vehicle adoption starting from the year 2000 until 2021. As per Scopus records shown in Fig. 2, the first research on electric vehicles was in 1969 titled "Transcontinental electric car race. Dream of quiet, clean city vehicles spurred challenge that brought collegiate competition" by Rippel We. Subsequently, the publication remained stagnant until it starts picking up in early 2000. Since then, people have acknowledged the urgency of green vehicle adoption and due to this concern, research in this field has seen an uptrend in attention from scholars thus justify the reason behind the publication year selection from 2000 until 2021 in this bibliometric analysis. Table 1 presents the total number of publications and growth percentage of documents published on the green vehicle adoption. As the green vehicle relates to the widely debated Industrial Revolution 4.0, it is expected that the number of publications will increase in 2022 onwards.

Table 1. Number of green vehicles' adoption research publications by year

Year	Total of Publication	Percentage (%)
2021	64	20.00%
2020	37	11.56%
2019	40	12.50%
2018	32	10.00%
2017	22	6.88%
2016	21	6.56%
2015	17	5.31%
2014	10	3.13%
2013	11	3.44%
2012	13	4.06%
2011	12	3.75%
2010	16	5.00%
2009	7	2.19%
2008	1	0.31%
2007	3	0.94%
2006	1	0.31%
2005	1	0.31%
2003	2	0.63%

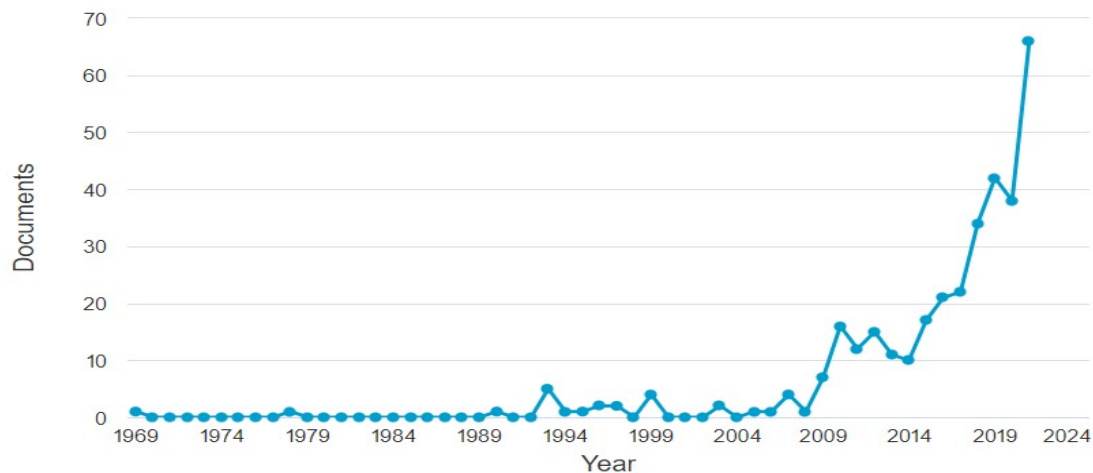


Fig. 2 The distribution trends of green vehicles' adoption research publications by year

3.1.2 Document and Source Types

Document types is a type of document based on the document's originality; either article, conference paper, book chapter etc., whilst sources type refers to the type of source document; whether journal, conference proceeding, book series, or trade publication. The results of document types summarized in Table 2, show that documents published on the topic of green vehicle adoption can be classified into nine document types and most of the publication were published as conference papers (41.25%) and articles (40%). Other types of documents presented less than 5% of the total publication respectively.

Table 2. Document type for green vehicles' adoption research

Document Type	Total of Publication	Percentage (%)
Conference Paper	132	41.25%
Article	128	40.00%
Review	45	14.06%
Note	4	1.25%
Book	3	0.94%
Book Chapter	3	0.94%
Short Survey	2	0.63%
Editorial	2	0.63%
Letter	1	0.31%

For source types, the analysis show that there are 5 types of source documents (see Table 3). Of the 320 documents, 53.75% were published in journals, 36.25% in conference proceedings and the remaining 10% of the document were published in trade journals, book series, and books.

Table 3. Sources green vehicles' adoption research

Source Type	Total of Publication	Percentage (%)
Journal	172	53.75%
Conference Proceeding	116	36.25%
Trade Journal	17	5.31%
Book Series	9	2.81%
Book	6	1.88%

3.1.3 Documents Languages

The gathered data sets were further analysed for the language used in the published documents. As shown in Table 4, English is commonplace for most of the publications in this research domain (96.88%). The other languages i.e., German, Chinese and Polish are also used for some research publications and one of the documents had been published in dual languages, i.e., English, and Polish.

Table 4. Publications languages

Languages	Total of Publication	Percentage (%)
English	311	96.88%
German	5	1.56%
Chinese	4	1.25%
Polish	1	0.31%

3.2 Key Areas Green Vehicles' Adoption Publications

The subject area, source title, and keywords frequency revealed the key areas of green vehicle adoption research. This was performed to answer research question 2.

3.2.1 Subject Area

This study then classifies the published documents based on the subject area, as presented in Table 5. On the whole, the distribution indicates that publication on green vehicle emerge in diverse subject areas ranging from engineering, energy, computer science, environmental science, social science, mathematics, material science, decision science, physics, and astronomy as well as business, management, and accounting. According to the analysis, it is found that more than half of the publications were categorized under engineering (65.63%) and followed by energy (42.81%).

Table 5. Subject area

Subject Area	Total of Publication	Percentage (%)
Engineering	210	65.63%
Energy	137	42.81%
Computer Science	70	21.88%
Environmental Science	54	16.88%
Social Sciences	42	13.13%
Mathematics	40	12.50%
Materials Science	28	8.75%
Business, Management and Accounting	24	7.50%
Physics and Astronomy	19	5.94%
Decision Sciences	14	4.38%

3.2.2 Source Title

As green vehicle adoption research was published in various journals, proceedings, and books, thus Table 6 shows the top source title where the articles on the research domain have been published based on the minimum number of 4 publications produced by each source title. As highlighted in Table 6, the Institute of Electrical & Electronics Engineers Access and the Renewable and Sustainable Energy Reviews are among the top journals that contribute to publications on green vehicle adoption.

Table 6. Most active source titles

Source Title	Total of Publication	Percentage (%)
Institute of Electrical & Electronics Engineers Access	10	3.13%
Renewable And Sustainable Energy Reviews	10	3.13%
Energies	9	2.81%
SAE Technical Papers	8	2.50%
World Electric Vehicle Journal	6	1.88%
Energy Policy	5	1.56%
Lecture Notes In Electrical Engineering	5	1.56%
Sustainability Switzerland	5	1.56%
Energy	4	1.25%
IEEE Electrification Magazine	4	1.25%
Journal Of Cleaner Production	4	1.25%
Journal Of Energy Storage	4	1.25%
Resources Conservation And Recycling	4	1.25%
Transportation Research Part D Transport And Environment	4	1.25%

3.2.3 Keyword Analysis

For the keyword analysis, the analyzation is based on two applications tools; Wordsift and VOSviewer. The WordSift application will generate the word cloud based on the keywords entered, while VOSviewer will visualize the co-occurrence of keywords based on the green vehicle adoptions research data sets. Scopus database provides researchers with two types of keywords; author keywords, and indexed keywords (Ahmi, 2021). Author keywords are keywords chosen by author(s) which, in their opinion, reflect the document contents best. On the contrary, indexed keywords are keywords chosen by content supplier (or publishers) and are standardized based on publicly available vocabulary. For this bibliometric analysis, we

utilized both author and indexed keywords listed in downloaded summary file to perform the mapping and visualizing the occurrence of keywords.

3.2.3.1 Keyword Analysed using WordSift

Using WordSift (<https://wordsift.org>), this analysis created a word cloud for the authors' keywords. Fig. 3 represents the findings of the word cloud with a maximum of 100 words, and \sqrt{n} scale setting. Fig. 3 depicts the top 100 words (or parts of keyword) used in the combination of green vehicle and its challenges research publications. Each word's size denotes the total number of keywords occurrences.

As the purpose of this analysis is to determine the impediment of green vehicle adoption, the word cloud portrays other emerging keywords such as charging, battery, technology, development, power, fuel, lithium, and storage. Other keywords, despite the smaller size, are words that have also been chosen to accommodate the issue of green vehicle adoptions. Therefore, we anticipate that future research will likely emphasize on these keywords.

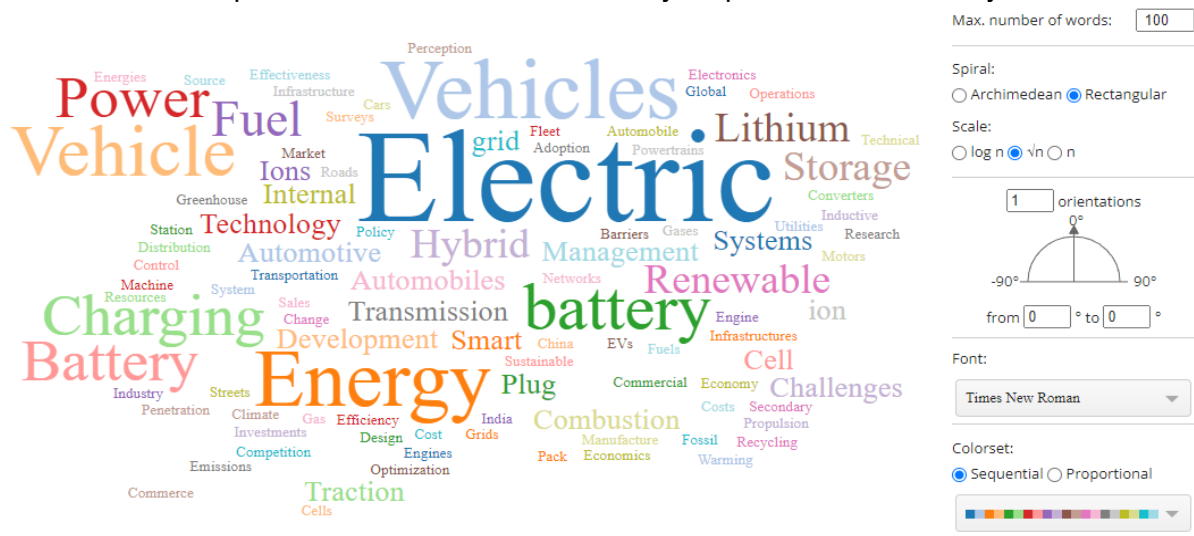


Fig. 3 Word Cloud of the Authors Keywords

3.2.3.2 Keyword Analysed using VOSviewer

The network visualization of both authors and indexed keywords visualized by VOSviewer (see Fig. 4) discern the relationship strength between keywords by colour, circle size, font size, and thickness of connecting lines. Related keywords, denoted by the same colour, are commonly listed together. Using 2660 authors and indexed keywords, filtered by minimum of 13 occurrences of keyword, the VOSviewer eventually identified 38 items with 4 clusters. The 4 clusters are marked by 4 distinct colours according to the highest keywords. Further details on each cluster are explained in Section 4.0.

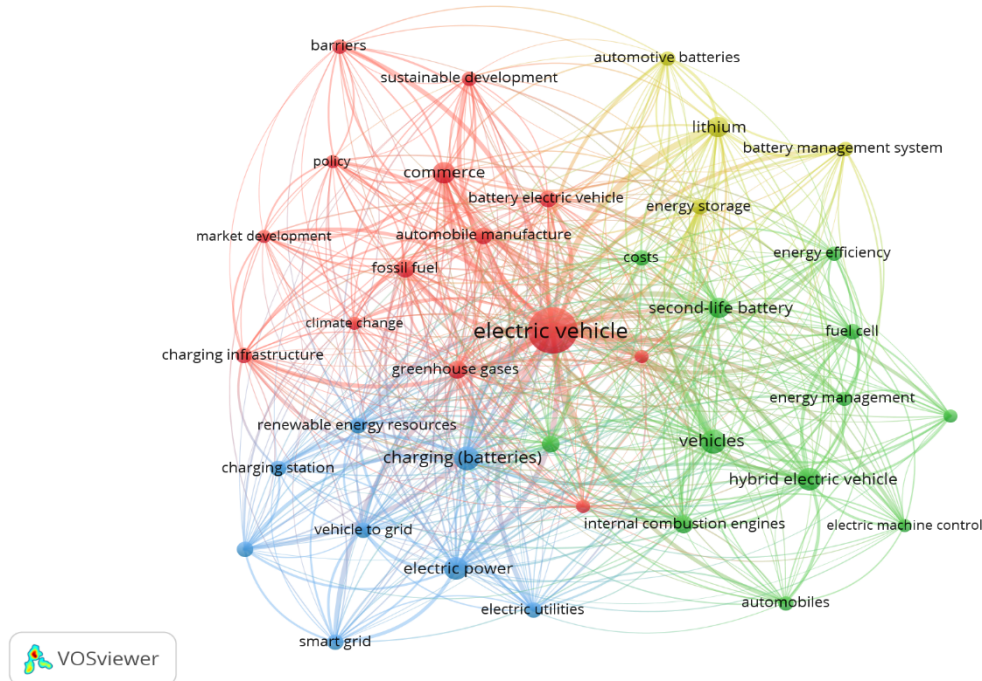


Fig. 4 VOSviewer network visualization of keyword co-occurrence

The results show that charging (batteries), commerce, fossil fuels, lithium-ion batteries, electric power transmission network, greenhouse gases, electric utilities are among the highest keywords occurrences after removing core keyword specified in the search query i.e., electric vehicle, hybrid vehicle, and vehicle (see Table 7).

Table 7. Top keywords

Keywords	Total of Publication	Percentage (%)
Charging (batteries)	54	16.88%
Commerce	39	12.19%
Secondary Batteries	37	11.56%
Fossil Fuels	26	8.13%
Lithium-ion Batteries	26	8.13%
Electric Power Transmission Networks	25	7.81%
Greenhouse Gases	25	7.81%
Automobile Manufacture	24	7.50%
Internal Combustion Engines	24	7.50%
Battery Electric Vehicles	21	6.56%
Electric Utilities	20	6.25%
Vehicle-to-grid	20	6.25%
Battery Management Systems	17	5.31%
Charging Infrastructures	17	5.31%

3.3 Major Players and Research Collaboration

In this section, we analysed the geographical distribution of publications by extracting the most publication contributions by countries and institutions. We then reviewed the connection among green vehicle adoption research through citation analysis, authorship analysis and co-citation analysis.

3.3.1 Countries with the Most Contributions

The top 10 out of 57 countries that contributed to the publication's productivity in this issue of green vehicle adoption are itemized in Table 8. These countries have been counted based on the author(s)' affiliation, i.e., if the documents were co-authored by 4 authors (two (2) from Malaysia and another two (2) from United Kingdom) it will be counted as one (1) Malaysia and one (1) United Kingdom. Thus, based on the stated criterion, it can be seen that top on the lists is the United States with total of 50 documents, followed by India, United Kingdom, China, and Germany.

Table 8. Top countries contributed to the publications

Country	Total of Publication	Percentage (%)
United States	50	15.63%
India	44	13.75%
United Kingdom	35	10.94%
China	29	9.06%
Germany	29	9.06%
Canada	16	5.00%
Malaysia	16	5.00%
France	14	4.38%
Japan	11	3.44%
Australia	10	3.13%

3.3.2 Institutions with the Most Contributions

As per Table 9 below, the top affiliation of the author(s) is from Universiti Kebangsaan Malaysia, Universiti Tenaga Nasional, and Newcastle University, United Kingdom. The list of the top affiliations is based on the number of publications they produced. The Scopus database considers only one author per document, even though there are two or more authors from the same institutions who wrote the same documents.

Table 9. Most influential institutions contributed to the publications

Institution	Country	Total of Publication	Percentage (%)
Universiti Kebangsaan Malaysia	Malaysia	10	3.13%
Universiti Tenaga Nasional	Malaysia	6	1.88%
Newcastle University	United Kingdom	5	1.56%
CNRS Centre National de la Recherche Scientifique	France	4	1.25%
Rheinisch-Westfälische Technische Hochschule Aachen	Germany	4	1.25%
Université du Québec à Trois-Rivières	Canada	4	1.25%
Femto-St - Sciences et Technologies	France	4	1.25%
Fédération de Recherche CNRS FCLAB	France	4	1.25%
The Royal Institute of Technology KTH	Sweden	3	0.94%
Seoul National University	South Korea	3	0.94%

3.3.3 Most Active Authors

Table 10 listed the top author based on the number of documents published by them within the research fields in the previous two decades (regardless of the author's position, either as the first author, second or even as the corresponding author). Mohammad Abdul Hannan from the Universiti Tenaga Nasional, Malaysia, is one of the top authors actively publishing research in topics like battery management system, and electric vehicle charging system. Out of nine documents, 3 of them are led by him.

Table 10. Most active authors

Author's Name	Total of Publication	Affiliation
Hannan, Mohammad Abdul	9	Universiti Tenaga Nasional, Malaysia
Boulon, Loïc	5	Université du Québec à Trois Rivières, Canada
Mohamed, Azah	5	Universiti Kebangsaan Malaysia
Ayob, Afida	4	Universiti Kebangsaan Malaysia
Franke, Thomas	4	Universität zu Lübeck, Lübeck, Germany
Hussain, Aini	4	Universiti Kebangsaan Malaysia
Sovacool, Benjamin K.	4	Aarhus Universitet, Aarhus, Denmark
Chan, Chingchuen	3	Harbin Institute of Technology, China
Emadi, Ali N.	3	McMaster University, Hamilton, Canada
Lipu, Molla Shahadat H.	2	Universiti Kebangsaan Malaysia

3.3.4 Citation Analysis

Using Harzing's Publish and Perish software, and the retrieved Scopus data from 2000 – 2021, the citation metrics is generated as summarized in Table 11. As indicated, there are 320 documents with 8,096 citations averaging 426 citations per year on the issue of green vehicle adoption research. Each paper is cited 25 times, where the *h-index* and *g-index* is at 42 and 86 respectively, for all the publications.

The *h-index* and *g-index* is one of the metrics measured the productivity and citation impact. As proposed by Hirsch (2005), the *h-index* characterized researchers scientific output, and estimate of an importance, significance, and broad impact of a scientist's cumulative research contributions. Therefore, the *h-index* 42 in this analysis means the 42 publications that each of the publications has at least 42 citations. Meanwhile, *g-index* is ranked based on the largest number of citations received in descending order set of data i.e., the top *g* articles have at least g^2 citations (Egghe, 2006). Therefore, the 86 *g-index* in this analysis represents the 86 published articles that have at least 7,396 citations.

Table 11. Citations metrics

Metrics	Data
Publication years	2003-2021
Papers	320
Citations	8,096
Years	19
Citations/Year	426.11
Citations/Paper	24.61
Citations/Author	2,589.12
Papers/Author	125.57
Authors/Paper	3.68
Hirsh h_index	42
Egghe g_index	86

Meanwhile, the top 20 cited articles are listed in Table 12 below. All these articles are ranked based on the number of times being cited. The document by Egbue and Long (2012) entitled "Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions" has received the highest number of citations (796 citations or an average of 79.6 citations per year). However, if we consider the highest citation per year as the most impactful article, the study by Hannan et al. (2017) is the most impactful study with an average of 154.2 citations per year.

Table 12. Top 20 highly cited documents

No.	Authors	Year	Title	Source	Total Citation	Cites PerYear
1	O. Egbue, S. Long	2012	Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions	Energy Policy	796	79.6
2	M.A. Hannan, M.S.H. Lipu, A. Hussain, A. Mohamed	2017	A review of lithium-ion battery state of charge estimation and management system in electric vehicle applications: Challenges and recommendations	Renewable and Sustainable Energy Reviews	771	154.2
3	M.A. Hannan, M.M. Hoque, A. Mohamed, A. Ayob	2017	Review of energy storage systems for electric vehicle applications: Issues and challenges	Renewable and Sustainable Energy Reviews	439	87.8
4	M.A. Hannan, F.A. Azidin, A. Mohamed	2014	Hybrid electric vehicles and their challenges: A review	Renewable and Sustainable Energy Reviews	409	51.13
5	B.K. Sovacool, R.F. Hirsh	2009	Beyond batteries: An examination of the benefits and barriers to plug-in hybrid electric vehicles (PHEVs) and a vehicle-to-grid (V2G) transition	Energy Policy	392	30.15

6	T. Franke, I. Neumann, F. BÄcker, P. Cocron, J.F. Krems	2012	Experiencing Range in an Electric Vehicle: Understanding Psychological Barriers	Applied Psychology	249	24.9
7	M.S.H. Lipu, M.A. Hannan, A. Hussain, M.M. Hoque, P.J. Ker, M.H.M. Saad, A. Ayob	2018	A review of state of health and remaining useful life estimation methods for lithium-ion battery in electric vehicles: Challenges and recommendations	Journal of Cleaner Production	242	60.5
8	F. Un-Noor, S. Padmanaban, L. Mihet-Popa, M.N. Mollah, E. Hossain	2017	A comprehensive study of key electric vehicle (EV) components, technologies, challenges, impacts, and future direction of development	Energies	237	47.4
9	N. Sulaiman, M.A. Hannan, A. Mohamed, E.H. Majlan, W.R. Wan Daud	2015	A review on energy management system for fuel cell hybrid electric vehicle: Issues and challenges	Renewable and Sustainable Energy Reviews	224	32
10	S. Amjad, S. Neelakrishnan, R. Rudramoorthy	2010	Review of design considerations and technological challenges for successful development and deployment of plug-in hybrid electric vehicles	Renewable and Sustainable Energy Reviews	222	18.5
11	S. Steinhilber, P. Wells, S. Thankappan	2013	Socio-technical inertia: Understanding the barriers to electric vehicles	Energy Policy	172	19.11
12	Z.-Y. She, Qing Sun, J.-J. Ma, B.-C. Xie	2017	What are the barriers to widespread adoption of battery electric vehicles? A survey of public perception in Tianjin, China	Transport Policy	126	25.2
13	S.G. Wirasingha, N. Schofield, A. Emadi	2008	Plug-in hybrid electric vehicle developments in the US: Trends, barriers, and economic feasibility	2008 IEEE Vehicle Power and Propulsion Conference, VPPC 2008	122	8.71
14	S. Habib, M.M. Khan, F. Abbas, L. Sang, M.U. Shahid, H. Tang	2018	A Comprehensive Study of Implemented International Standards, Technical Challenges, Impacts and Prospects for Electric Vehicles	IEEE Access	117	29.25
15	R. Bosshard, J.W. Kolar	2016	Inductive Power Transfer for Electric Vehicle Charging:	IEEE Power Electronics Magazine	110	18.33

Technical challenges and tradeoffs						
16	I. Vassileva, J. Campillo	2017	Adoption barriers for electric vehicles: Experiences from early adopters in Sweden	Energy	105	21
17	F.H. Gandoman, J. Jaguemont, S. Goutam, R. Gopalakrishnan, Y. Firouz, T. Kalogiannis, N. Omar, J. Van Mierlo	2019	Concept of reliability and safety assessment of lithium-ion batteries in electric vehicles: Basics, progress, and challenges	Applied Energy	99	33
18	G. Haddadian, M. Khodayar, M. Shahidehpour	2015	Accelerating the Global Adoption of Electric Vehicles: Barriers and Drivers	Electricity Journal	90	12.86
19	A.A. Juan, C.A. Mendez, J. Faulin, J. De Armas, S.E. Grasman	2016	Electric vehicles in logistics and transportation: A survey on emerging environmental, strategic, and operational challenges	Energies	89	14.83
20	A.K. Srivastava, B. Annabathina, S. Kamalasadan	2010	The Challenges and Policy Options for Integrating Plug-in Hybrid Electric Vehicle into the Electric Grid	Electricity Journal	84	7

3.3.5 Authorship Analysis

This section further evaluates, visualized, and mapped the relationships among the author(s) in the green vehicles research publications. In Section 3.3.3 and 3.3.4, we have highlighted the number of contributing authors in a publication, while in this section the collaboration between author(s) is explored through co-authorship analysis. The term co-authorship refers to the scientific collaboration between two or more authors on publications to discover new knowledge and solve problems (Sonnenwald, 2007). We utilized the VOSviewer tools to generate the visualized network between authors since this software provides a few types of co-authorship analysis i.e., co-authorship analysis by authors and co-authorship analysis by countries.

3.3.5.1 Co-authorship Analysis by Authors

The analysis, as displayed in Figure 4 visualized and identified a total of 1,110 authors out of 1,236 documents contributing to this research field by the collaboration network and number of documents. In order to generate the simplified author collaboration network as displayed in Fig. 5, the minimum threshold of documents of an author was set as one, and 1,000 authors with the greatest total link strength were chosen. As a result, the map shows

65 connected authors divided into eight clusters, which are marked with diverse colour, who collaborate publishing research in a specific research domain. The size of circles corresponds to the number of documents each author has published, and the links between the circles show the co-authorship relations among authors. The largest category is in red and green, and comprises of 12 and 10 documents respectively.

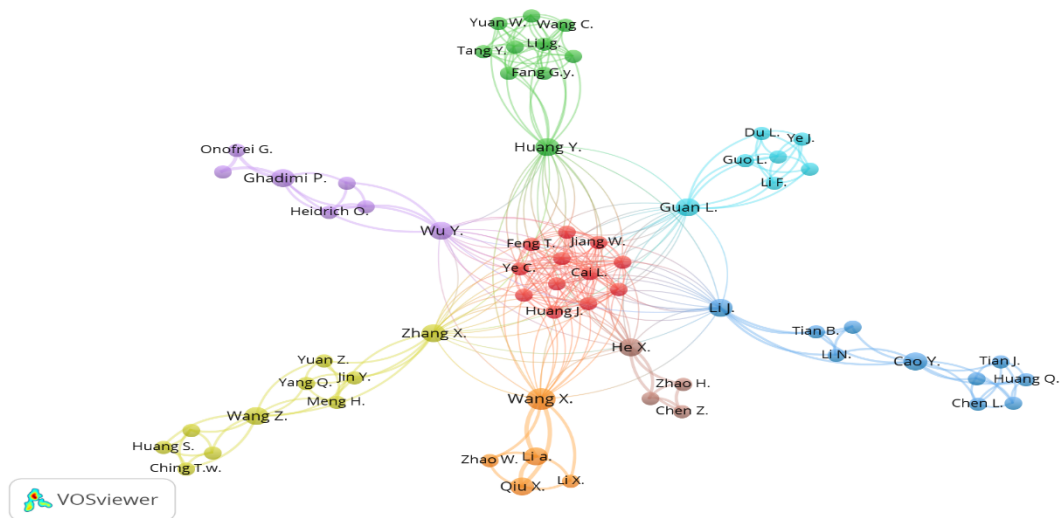


Fig. 5 VOSviewer Visualization of a Co-Authorship Analysis by Authors

3.3.5.2 Co-authorship Analysis by Countries

Fig.6 conveys the detailed illustration of the country/region collaboration map. The nodes size refers to the number of citations per country and the lines connecting the nodes represent the collaboration existence between the authors in each country. With the minimum number of citations per document is three, thirty countries separated with six different clusters are displayed in six different colors. The countries with the highest collaboration are clustered together colored in red, and this cluster includes countries like Canada, Colombia, France, Italy, Norway, South Africa, and Sweden. The United States, United Kingdom, and China are among the countries with the widest range of cooperative partners in this green vehicle adoption issues. Due to the clustering algorithm in VOSviewer, these three regions, however, are not grouped together and designated with three different colors. Hence, to a certain extent, geographic location also influenced research orientation. In order to speed up the advancement in this research field, scholars from all countries should strive to breakdown these spatial barriers in researching green vehicle adoption.

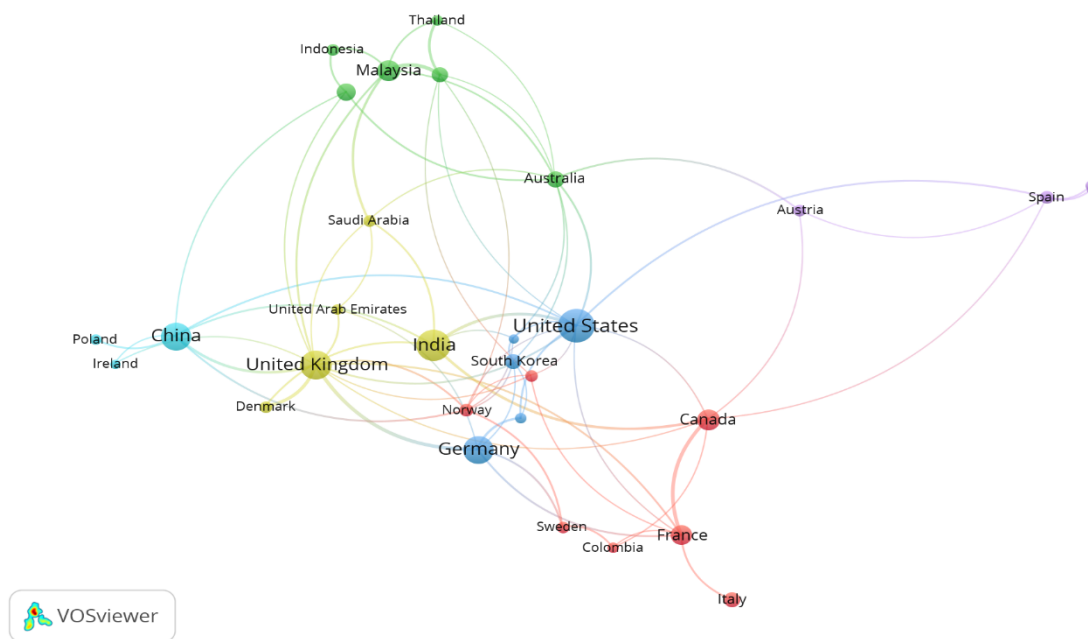


Fig. 6 VOSviewer Visualization of a Co-Authorship Analysis by Countries

3.3.6 Citation Analysis

The frequency in which two documents are cited together by a primary publication is measured using co-citation analysis. When publications are co-cited frequently, most probably it belongs to the same clusters (Abduljabbar et al., 2021). According to Eck and Waltman (2014), the larger the number of publications by which two publications are co-cited, the stronger the co-citation relation between the two publications. This paper analysed the co-citation using the cited references and cited authors, as the unit of analysis.

3.3.6.1 Co-citation by Cited References

Fig. 7 shows the network visualization of the co-citation by cited references. The VOSviewer tools help to track two documents that are cited together in the references. To develop meaningful clusters and assign each cluster to a theme and determine the main impediments of green vehicles adoptions, the network size is filtered accordingly. The minimum number of citations of a cited reference is set as three, resulting in 59 publications split in 5 clusters. The clusters show the references that are co-cited by documents within the dataset. Items coloured in red is the primary cluster with the highest number of publications, which is 15. Each publication labelled with the same colour tends to share some common themes.

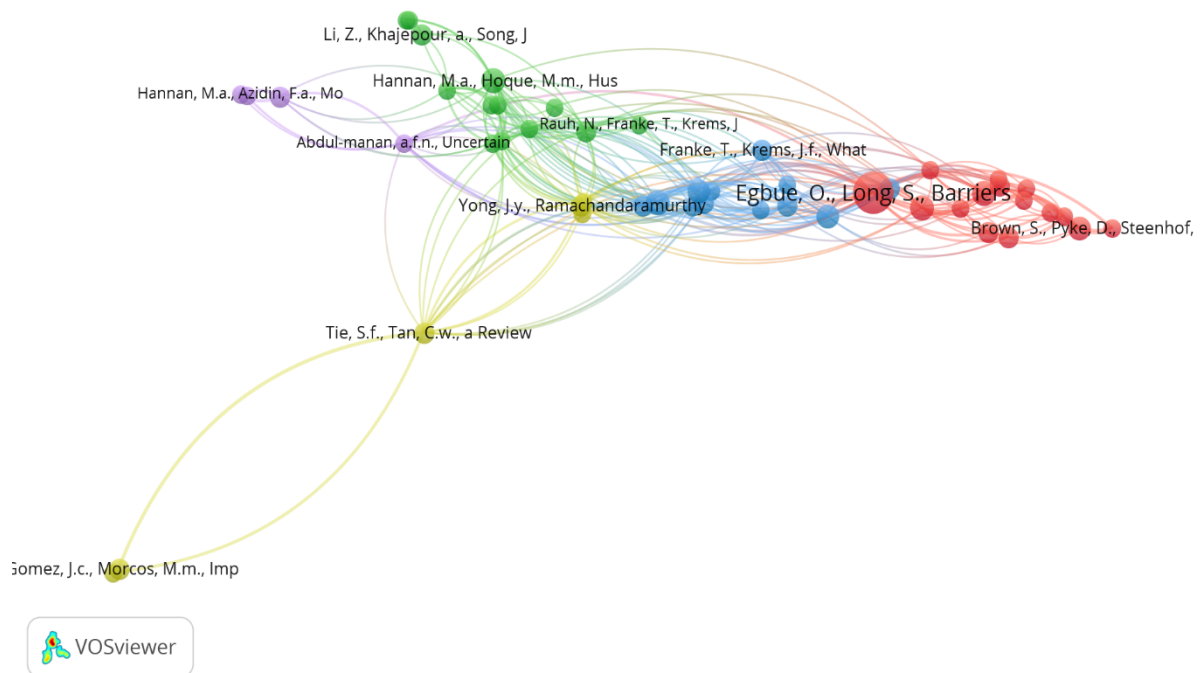


Fig. 7 VOSviewer Visualization of a Co-Citation Analysis by Cited References

3.3.6.2 Co-citation by Cited Authors

While co-citation by reference looks at similar references cited in other documents, the co-citations by authors search for similar two authors being cited by other publications. This analysis can be used to visualize the emerging intellectual structure of green vehicle adoption issue from the perspective of authors. The illustrated result in Fig. 8, is mapped with a threshold of 20 citations regarding an author. Out of 17,576 authors found from the reference's column in the datasets, 107 authors meet the thresholds and are divided into 4 different clusters and colour. The size of coloured sphere indicates the number of citations per author.

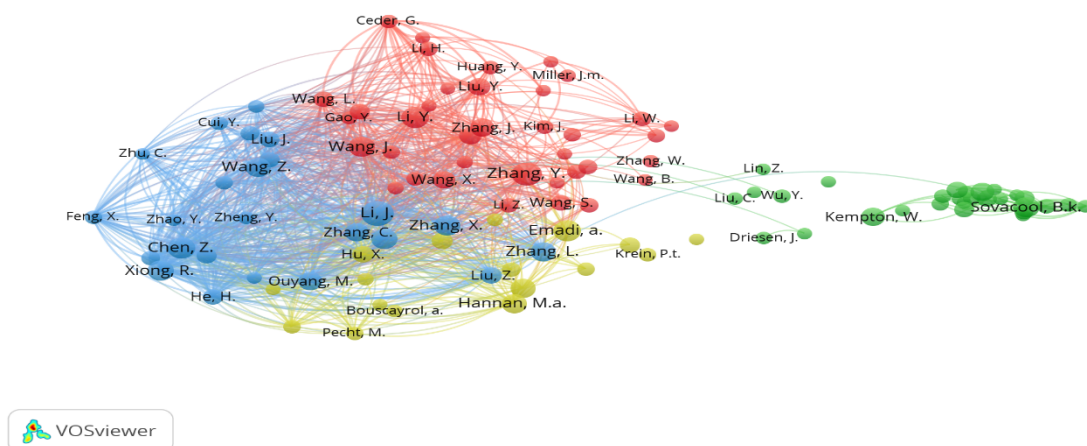


Fig. 8 VOSviewer Visualization of a Co-Citation Analysis by Cited Authors

4.0 DISCUSSION

In this section, efforts were made to elucidate the impeding factors for the adoption of green vehicles. Based on the keyword analysis in subsection 3.2.3, the word cloud in Fig. 3 displayed the highest occurrences of keywords in this research dataset. The words like “charging battery”, “energy”, “renewable”, and “storage” are highly visible keywords highlighted using the word cloud. Then, the results in Fig. 4 also highlights the co-occurrence of keywords in this research field and clustered a few keywords that are directly linked to the term “electric vehicle” (see Fig. 9). The keywords of a paper have a high conceptual level of abstraction (Qin et al., 2022), therefore it could be deemed possible as impeding factors affecting the adoption of green vehicle. The first cluster consists of 14 keywords such as “sustainable development”, “market development”, and “commerce” and is coloured in red. These clusters mainly focus on government regulations and policies related to the adoption of green vehicle. Next, the second cluster in green, included 12 keywords such as “energy management”, “powertrain”, and “energy efficiency” likely discussed on topics of environmental management and is associated with issues such as “second life battery” and “electric machine control”. Then, a total of 8 keywords in blue colour represent the issue of green vehicle charging infrastructure, in which the words “charging station”, “vehicle to grid”, and “electric utilities” being the most predominant keywords. The fourth cluster in yellow, which consists of the following 4 keywords, “lithium”, “battery management system”, “automotive batteries”, and “energy storage” is emphasising on the issue of battery management system.

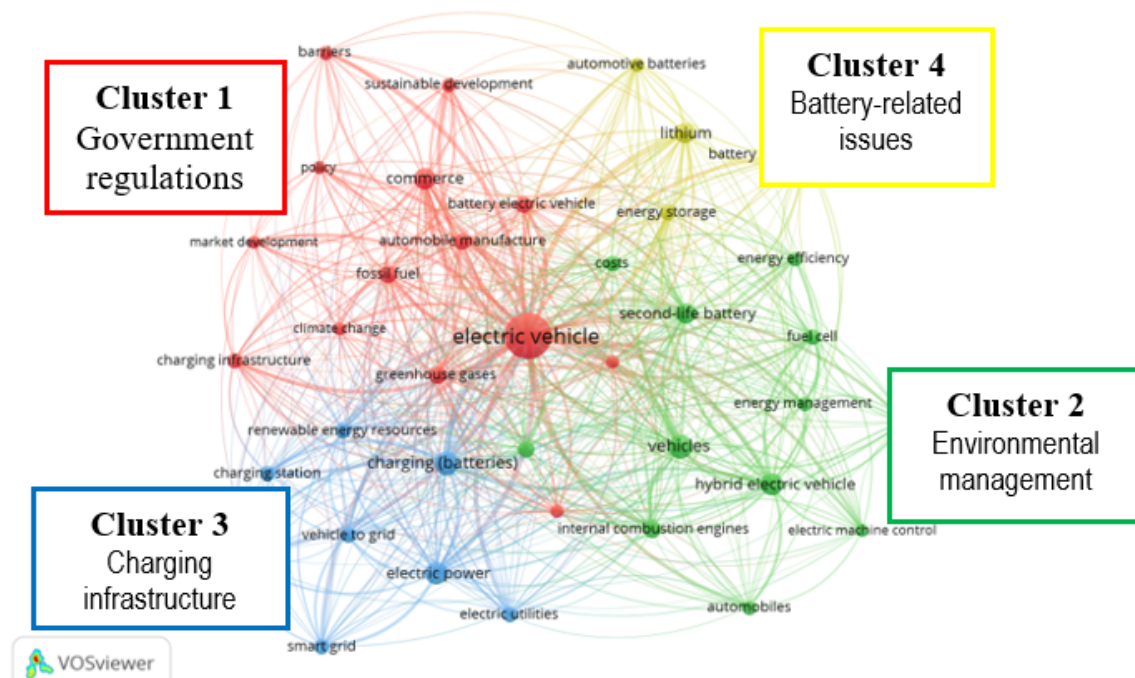


Fig. 9 Keyword Co-Occurrence Clusters

In addition, the results from the co-citation analysis also developed meaningful clusters and we assigned each cluster to a specific theme (see Fig.10). For Cluster 1, it is themed as “Socio-technical” with most publication under this cluster focused on the topics such as; battery range and cost (Egbue & Long, 2012), consumers’ psychological aspects (Rezvani et al., 2015), public knowledge (Krause et al., 2013), and incentives and socio-economic factors (Sierzchula et al., 2014). Cluster 2 in the “Battery-related issues” theme included 13 publications. As it is named, this cluster mainly focus on issues of lithium-ion batteries (Jaguemont et al., 2016; Mahammad A. Hannan et al., 2018; Zhu et al., 2018) and battery management system (Rezvanizani et al., 2014; Zhu et al., 2018; M. Zhang & Fan, 2020).

For Cluster 3 themed as “Charging infrastructure”, the publications centred on topics of vehicle to grid, smart grid (Lund & Kempton, 2008; Sovacool & Hirsh, 2009), and range anxiety (Lund & Kempton, 2008; Neubauer & Wood, 2014). Finally, Cluster 4 contained articles that focused on the “Environmental management” theme comprising publications in energy sources and energy management system (M. A. Hannan et al., 2014; Tie & Tan, 2013) and life cycle assessment (Abdul-Manan, 2015).

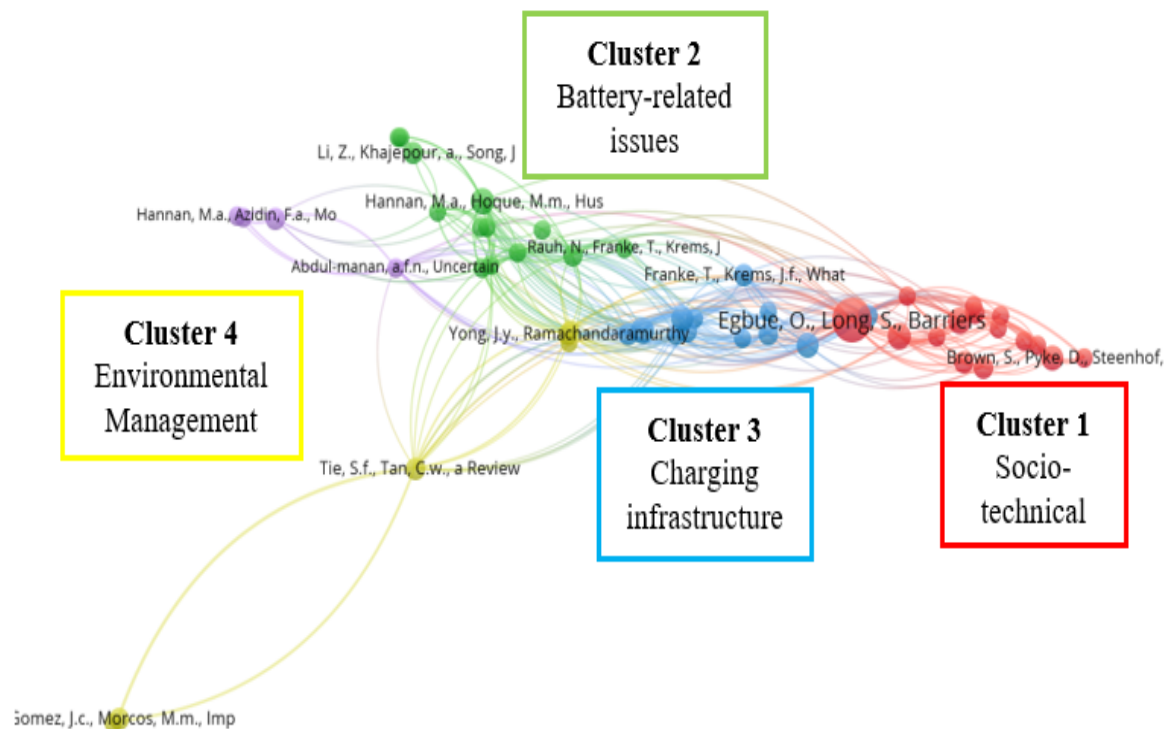


Fig. 10 Co-citation by Cited References Clusters

All the main clusters and publications mentioned above is a continuance from the climate change policy of the United States of America launched at the 10th Conference of the Parties to the UNFCCC (United Nations Convention on Climate Change) in 2004. During the Conference, it was declared that electric vehicles as one of the three pillars developed to mitigate the incidence of pollution and carbon dioxide emission (Secinaro et al., 2020). As a result, since 2005, green vehicles especially electric vehicles have sparked the interest of academia and policymakers. Hence, the beginning year of the bibliometric analysis follows the international trend and coincides with the start of the research conducted on the discussed theme.

5.0 CONCLUSION AND RECOMMENDATIONS

In this study, the intellectual landscape of green vehicle adoptions is analysed using bibliometric analysis approach. The contributions from bibliometric analysis also benefit policymakers and academicians. The research performance and impact of the analysed research area help policymakers in decision making before embarking into the specific research domain. Moreover, the important areas highlighted in bibliometrics findings develop clear insights to academicians in producing relevant publications. Building on the urgency of mitigating carbon emission particularly in the road transport sector, this research focused on the issues related to the green vehicle adoptions data gathered from Scopus database. From 2003, there has been a significant growth in the number of publications. The analysis also reveals the existence of inter-countries collaboration on the uptake of green vehicle issues.

Most of the publications were written in English, with more than half published in academic journals and conference proceedings. The results also indicate that the green vehicle publications involved various disciplines such as engineering, energy, computer science, environmental science, and social science. The publication impact can be evaluated based on the citation metric.

Nevertheless, this bibliometric technique has inherent shortcomings despite its contributions. The first aspect is keywords context used in the query process. As common practice in the past bibliometrics studies, this study employed specific query/keywords to locate the initial list of scholarly documents indexed by Scopus. An “article title” is chosen instead of “article title, abstract, and keywords”, which can retrieve more comprehensive search results, thus improving the quality of findings. Moreover, despite the fact that Scopus is one of the top online databases that index scholarly works, other recognized databases such as Web of Science can also be applicable.

Concerning future research, we contend that delving into social and economic factors can advance this topic and indirectly contribute to mitigating transport emission. For example, comprehending the psychological and social influence affecting the embrace of green vehicles and analysing the economic aspects of green vehicle adoption, including the total cost of ownership, incentives, and government policies that can either foster or impede adoption are key issues that needs to be researched further. In addition, exploring the impact of infrastructure development and devising strategies to surmount barriers related to charging availability, convenience, and accessibility is crucial. Moreover, future studies may focus on education and awareness, assessing the efficacy of educational campaign and awareness programs in promoting the adoption of green vehicle. Understanding how information is disseminated can rectify misconceptions and enhance knowledge about green vehicles. In conclusion, there is current deficiency in specific analyses concerning market dynamics and trends, management and policies related to technology innovation, and collaboration among stakeholders in the realm of green vehicle. Research in these areas can significantly augment the understanding of the topic.

CO-AUTHOR’S CONTRIBUTION

The authors declare that they have no known competing financial interest or personal relationships that could have appeared to influence the work reported in this paper. All authors contributed equally to the conception and design of the study.

ACKNOWLEDGEMENT

This study was funded by the Malaysian Ministry of Higher Education under the Fundamental Research Grant Scheme (FRGS) Grant Code: FRGS/1/2018/SS08/UITM/02/4. The views expressed in this paper do not necessarily reflect the views of the Ministry.

REFERENCES

- Abdul-Manan, A. F. N. (2015). Uncertainty and differences in GHG emissions between electric and conventional gasoline vehicles with implications for transport policy making. *Energy Policy*, 87, 1–7. <https://doi.org/10.1016/j.enpol.2015.08.029>.
- Abduljabbar, R. L., Liyanage, S., & Dia, H. (2021). The role of micro-mobility in shaping sustainable cities: A systematic literature review. *Transportation Research Part D: Transport and Environment*, 92(February), 102734. <https://doi.org/10.1016/j.trd.2021.102734>.
- Adroit Market Research. (2021). *Green Cars Market 2028 Global Size and Growth, Key Trend*. <https://www.globenewswire.com/news->

release/2021/10/27/2321579/0/en/Green-Cars-Market-2028-Global-Size-and-Growth-Key-Trend-Segmentation-Assessment-Key-Insights-Key-Regions-and-Future-Forecast.html.

- Ahmi, A. (2021). *Bibliometric Analysis for Beginners* (Pre-print, p. 180).
- Ahmi, A., & Mohamad, R. (2019). Bibliometric analysis of global scientific literature on web accessibility. *International Journal of Recent Technology and Engineering*, 7(6s2). <https://doi.org/10.1186/s12889-020-09368-z>.
- Anuar, A., Marwan, N. F., Smith, J., Siriyanun, S., & Sharif, A. (2022). Bibliometric analysis of immigration and environmental degradation: evidence from past decades. *Environmental Science and Pollution Research*, 29(9), 13729–13741. <https://doi.org/10.1007/s11356-021-16470-1>.
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11, 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>.
- Azizan, F. L., Ahmad, Z., & Afendi, N. A. (2022). Consumers' halal products purchase: An Integration of TPB. *Insight Journal*, 9(2), 21–32.
- Bretas, V. P. G., & Alon, I. (2021). Franchising research on emerging markets: Bibliometric and content analyses. *Journal of Business Research*, 133, 51–65. <https://doi.org/10.1016/j.jbusres.2021.04.067>.
- Chen, C. (2006). CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *Journal of the American Society for Information Science and Technology*, 57(3), 359–377. <https://doi.org/10.1002/ASI.20317>.
- Ciano, M. P., Pozzi, R., Rossi, T., & Strozzi, F. (2019). How IJPR has addressed 'lean': a literature review using bibliometric tools. *International Journal of Production Research*, 57(15–16), 5284–5317. <https://doi.org/10.1080/00207543.2019.1566667>.
- Donthu, N., Kumar, S., & Pattnaik, D. (2020). Forty-five years of Journal of Business Research: A bibliometric analysis. *Journal of Business Research*, 109(October 2019), 1–14. <https://doi.org/10.1016/j.jbusres.2019.10.039>.
- Eck, N. J. van, & Waltman, L. (2014). Visualizing bibliometric networks. *Measuring Scholarly Impact*, 285–320. https://doi.org/10.1007/978-3-319-10377-8_13.
- Egbue, O., & Long, S. (2012). Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions. *Energy Policy*, 48(2012), 717–729. <https://doi.org/10.1016/j.enpol.2012.06.009>.
- Egghe, L. (2006). Theory and practise of the g-index. *Scientometrics* 2006 69:1, 69(1), 131–152. <https://doi.org/10.1007/S11192-006-0144-7>.
- Foley, B., Degirmenci, K., & Yigitcanlar, T. (2020). Factors affecting electric vehicle uptake: Insights from a descriptive analysis in Australia. *Urban Science*, 4(4), 57. <https://doi.org/10.3390/urbansci4040057>.
- Gandia, R. M., Antonialli, F., Cavazza, B. H., Neto, A. M., Lima, D. A. de, Sugano, J. Y., Nicolai, I., & Zambalde, A. L. (2019). Autonomous vehicles: scientometric and bibliometric review. *Transport Reviews*, 39(1), 9–28. <https://doi.org/10.1080/01441647.2018.1518937>.
- Gulzari, A., Wang, Y., & Prybutok, V. (2022). A green experience with eco-friendly cars: A young consumer electric vehicle rental behavioral model. *Journal of Retailing and Consumer Services*, 65, 102877. <https://doi.org/10.1016/j.jretconser.2021.102877>.
- Hannan, M. A., Azidin, F. A., & Mohamed, A. (2014). Hybrid electric vehicles and their challenges: A review. *Renewable and Sustainable Energy Reviews*, 29, 135–150. <https://doi.org/10.1016/j.rser.2013.08.097>.
- Hannan, M A, Lipu, H., Hussain, A., & Mohamed, A. (2017). A review of lithium-ion battery state of charge estimation and management system in electric vehicle applications: Challenges and recommendations. <https://doi.org/10.1016/j.rser.2017.05.001>.
- Hannan, Mahammad A., Hoque, M. M., Hussain, A., Yusof, Y., & Ker, P. J. (2018). State-of-the-art and energy management system of lithium-ion batteries in electric vehicle applications: Issues and recommendations. *IEEE Access*, 6(c), 19362–19378. <https://doi.org/10.1109/ACCESS.2018.2817655>.
- Hirsch, J. E. (2005). An index to quantify an individual's scientific research output. *Proceedings*

- of the National Academy of Sciences of the United States of America, 102(46), 16569–16572. <https://doi.org/10.1073/PNAS.0507655102>.
- Hu, Y., Sun, J., Li, W., & Pan, Y. (2014). A scientometric study of global electric vehicle research. *Scientometrics*, 98(2), 1269–1282. <https://doi.org/10.1007/s11192-013-1067-8>
- Jaguemont, J., Boulon, L., & Dubé, Y. (2016). A comprehensive review of lithium-ion batteries used in hybrid and electric vehicles at cold temperatures. *Applied Energy*, 164, 99–114. <https://doi.org/10.1016/j.apenergy.2015.11.034>.
- Jan van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics* (2010). <https://doi.org/10.1007/s11192-009-0146-3>.
- Krause, R. M., Carley, S. R., Lane, B. W., & Graham, J. D. (2013). Perception and reality: Public knowledge of plug-in electric vehicles in 21 U.S. cities. *Energy Policy*, 63(2013), 433–440. <https://doi.org/10.1016/j.enpol.2013.09.018>.
- Learn About Green Vehicles | US EPA. (n.d.). <https://www.epa.gov/greenvehicles/learn-about-green-vehicles>.
- Lund, H., & Kempton, W. (2008). Integration of renewable energy into the transport and electricity sectors through V2G. *Energy Policy*, 36(9), 3578–3587. <https://doi.org/10.1016/j.enpol.2008.06.007>.
- Meyer, T. (2020). Decarbonizing road freight transportation – A bibliometric and network analysis. *Transportation Research Part D: Transport and Environment*, 89(November), 102619. <https://doi.org/10.1016/j.trd.2020.102619>.
- Musa, N. C., Syafiq, M., Salleh, M., Boon, K. T., Ab Aziz, A., Tyller, C., Liang, T. C., & Jee, W. W. (2023). Malaysian women's intention to purchase green cosmetic products. *Insight Journal*, 10(1), 257–261.
- Neubauer, J., & Wood, E. (2014). The impact of range anxiety and home, workplace, and public charging infrastructure on simulated battery electric vehicle lifetime utility. *Journal of Power Sources*, 257, 12–20. <https://doi.org/10.1016/j.jpowsour.2014.01.075>.
- Qin, Y., Xu, Z., Wang, X., & Škare, M. (2022). Green energy adoption and its determinants: A bibliometric analysis. *Renewable and Sustainable Energy Reviews*, 153(October 2021). <https://doi.org/10.1016/j.rser.2021.111780>.
- Rezvani, Z., Jansson, J., & Bodin, J. (2015). Advances in consumer electric vehicle adoption research: A review and research agenda. *Transportation Research Part D: Transport and Environment*, 34, 122–136. <https://doi.org/10.1016/j.trd.2014.10.010>.
- Rezvanizani, S. M., Liu, Z., Chen, Y., & Lee, J. (2014). Review and recent advances in battery health monitoring and prognostics technologies for electric vehicle (EV) safety and mobility. *Journal of Power Sources*, 256, 110–124. <https://doi.org/10.1016/j.jpowsour.2014.01.085>.
- Secinaro, S., Brescia, V., Calandra, D., & Biancone, P. (2020). Employing bibliometric analysis to identify suitable business models for electric cars. *Journal of Cleaner Production*, 264, 121503. <https://doi.org/10.1016/j.jclepro.2020.121503>.
- Sierzchula, W., Bakker, S., Maat, K., & Van Wee, B. (2014). The influence of financial incentives and other socio-economic factors on electric vehicle adoption. *Energy Policy*, 68, 183–194. <https://doi.org/10.1016/j.enpol.2014.01.043>.
- Sonnenwald, D. H. (2007). Scientific collaboration. *Annual Review of Information Science and Technology*, 41(1), 643–681. <https://doi.org/10.1002/ARIS.2007.1440410121>.
- Sovacool, B. K., & Hirsh, R. F. (2009). Beyond batteries: An examination of the benefits and barriers to plug-in hybrid electric vehicles (PHEVs) and a vehicle-to-grid (V2G) transition. *Energy Policy*, 37(3), 1095–1103. <https://doi.org/10.1016/j.enpol.2008.10.005>.
- Tian, X., Geng, Y., Zhong, S., Wilson, J., Gao, C., Chen, W., Yu, Z., & Hao, H. (2018). A bibliometric analysis on trends and characters of carbon emissions from transport sector. *Transportation Research Part D: Transport and Environment*, 59(December 2017), 1–10. <https://doi.org/10.1016/j.trd.2017.12.009>.
- Tie, S. F., & Tan, C. W. (2013). A review of energy sources and energy management system in electric vehicles. *Renewable and Sustainable Energy Reviews*, 20, 82–102. <https://doi.org/10.1016/j.rser.2012.11.077>.

- Tracking Transport 2020 – Analysis - IEA*. (n.d.). <https://www.iea.org/reports/tracking-transport-2020>
- Vieira, E. S., & Gomes, J. A. N. F. (2009). A comparison of Scopus and Web of science for a typical university. *Scientometrics*, 81(2), 587–600. <https://doi.org/10.1007/S11192-009-2178-0>
- Vitta, S. (2021). *Electric cars-Assessment of “green” nature vis-à-vis conventional fuel driven cars*. <https://doi.org/10.1016/j.susmat.2021.e00339>.
- Wu, J., Liao, H., Wang, J. W., & Chen, T. (2019). The role of environmental concern in the public acceptance of autonomous electric vehicles: A survey from China. *Transportation Research Part F: Traffic Psychology and Behaviour*, 60, 37–46. <https://doi.org/10.1016/j.trf.2018.09.029>.
- Zakaria, R., Ahmi, A., Ahmad, A. H., & Othman, Z. (2021). Worldwide melatonin research: a bibliometric analysis of the published literature between 2015 and 2019. *Chronobiology International*, 38(1), 27–37. <https://doi.org/10.1080/07420528.2020.1838534>.
- Zhang, M., & Fan, X. (2020). Review on the state of charge estimation methods for electric vehicle battery. *World Electric Vehicle Journal*, 11(1). <https://doi.org/10.3390/WEVJ11010023>.
- Zhang, R., & Fujimori, S. (2020). *The role of transport electrification in global climate change mitigation scenarios*. <https://doi.org/10.1088/1748-9326/ab6658>.
- Zhang, Y., Zhang, M., Li, J., Liu, G., Yang, M. M., & Liu, S. (2021). A bibliometric review of a decade of research: Big data in business research-Setting a research agenda. *Journal of Business Research*, 131, 374–390. <https://doi.org/10.1016/j.jbusres.2020.11.004>.
- Zhou, W., Kou, A., Chen, J., & Ding, B. (2018). A retrospective analysis with bibliometric of energy security in 2000-2017. *Energy Reports*.
- Zhu, J., Wierzbicki, T., & Li, W. (2018). A review of safety-focused mechanical modeling of commercial lithium-ion batteries. *Journal of Power Sources*, 378(November 2017), 153–168. <https://doi.org/10.1016/j.jpowsour.2017.12.034>.
- Zyoud, S. H., Fuchs-Hanusch, D., Zyoud, S. H., Al-Rawajfeh, A. E., & Shaheen, H. Q. (2017). A bibliometric-based evaluation on environmental research in the Arab world. *International Journal of Environmental Science and Technology*, 14(4), 689–706. <https://doi.org/10.1007/s13762-016-1180-3>.

FACTORS INFLUENCING NOMOPHOBIA AMONG UNDERGRADUATE STUDENTS IN UITM KEDAH

Nurul Nasuha Muhammad Awis Hazrani¹, Wan Nur Najihah Wan Ali², Adnan Aminuddin^{3*}

^{1,2,3}Faculty of Administration Science & Policy Studies, Universiti Teknologi MARA Kedah Branch, 08400 Merbok, Kedah, Malaysia

*Corresponding Author

Email: adnan708@uitm.edu.my

Received: 29th November 2023

Accepted: 31st March 2024

ABSTRACT

Smartphones have become a necessity in our lives not only as a medium for communication but also as a trading platform for sellers and buyers. Initially, the users of smartphones were among those who are working but now even students use it as teaching and learning tools. The necessity for using smartphones among students emerged during the pandemic Covid-19 when all the classes were conducted online. Hence, the reliance on smartphones has skyrocketed but over-dependence may produce a negative impact on the users. Statistics showed that about 71.4% of Malaysians will check their smartphones even when it does not ring. It was stated that in Southeast Asia, Malaysia smartphone users used an average of 187 minutes per day which was the highest in hours spent on their devices. Hence, this research seeks to identify the factors influencing Nomophobia among undergraduate students in UiTM Kedah. A cross-sectional survey was conducted using a stratified random sampling technique among 214 undergraduate students and the result showed that they have a high level of nomophobia. This study has identified that all variables which are smartphone usage, smartphone addiction, and internet addiction tested have a strong correlation toward Nomophobia among the respondents.

Keywords: Nomophobia, Smartphone usage, Smartphone addiction, Internet addiction

1.0 INTRODUCTION

Smartphone usage has grown crucial in this age group, as kids use them to play games, access social media, and music, and connect. Despite their benefits and popularity, excessive smartphone use may lead to Nomophobia which is described as the dread of losing the ability to communicate and access information, as well as losing the connectivity and convenience that smartphones provide (King et al., 2010). The issue of Nomophobia involved a wide range of people including adults as well as students. According to a study by Columbia Broadcast System (2012) revealed that 66% of adults in the United States have Nomophobia. In addition, the Malaysian Communications and Multimedia Commission (2014) revealed that people of all ages, from teens to adults, were unable to turn off their smartphones. They were both put to the test and discovered that being without their electronics for more than 24 hours was exhausting. Statistics showed that about 71.4% of Malaysians will check their smartphone even when it does not ring.

Despite Malaysia's superb national internet coverage, Malaysian teenagers' over-dependence on the internet is a serious worry that might lead to a range of consequences. This issue mostly affects young individuals, particularly teens, and students, who are more prone to use smartphones. This scenario proved by Nurul et al. (2019) in their study indicated that students are likely to experience Nomophobia for academic or educational reasons. Due to this reason, the researchers conducted this study to investigate the factors influencing nomophobia among undergraduate students in UiTM Kedah.

2.0 LITERATURE REVIEW

2.1 Nomophobia

The dread of being without "Mobile" is known as Nomophobia. It may be related to the increased interest in smartphones. Malaysian smartphone users spend an average of 187 minutes a day using their devices, ranking first in Southeast Asia (Yin et al., 2019). This suggests that smartphones are a part of our everyday lives as the development of technologies requires of using the internet through smartphones as a new medium to facilitate business and social interaction. For example, booking an appointment could be hard for someone if they are not good at utilising a smartphone. Furthermore, there are a lot of works that make use of smartphones as the medium to make tasks easier as certain smartphones already have applications for work examples are One Drive, Outlook, and Microsoft 365. Hence, it is necessary to learn more about how to use and the benefits of smartphones. However, the inappropriate use of smartphones can disrupt our daily lives and mental health. Examples of problematic smartphone usage included phantom mobile phone ringing in the absence of incoming phone alerts, which was caused by worry, and continual checking on phones to stay connected with people on social media.

A study on Nomophobia was conducted in Lebanon where the result showed that 769 (34.1%) participants had mild Nomophobia, 1089 (48.3%) moderate Nomophobia, and 349 (15.5%) had severe Nomophobia out of 2260, the number of participants who answered the questionnaire (Youssef, 2021). Spending time on the smartphone may help them to relieve stress and become one of their coping styles for their overwhelmed emotion. On the other hand, the overuse of smartphones which causes poor communication and decreased interpersonal relationships may also lead to depression.

2.2 Smartphone Usage

Smartphones, or phones that can connect to the internet and run apps, are the most prevalent type of mobile device in nine of the 11 countries surveyed: A majority of adults (median of 53%) reported using a smartphone. The highest usage was recorded in Lebanon (86%), Jordan (85%), and the lowest in India (32%). Younger adults lead the way in smartphone use in each of the countries surveyed. Across all 11 countries, those under 30 are much more likely to use a smartphone than those ages 50 and older. However, usage rates among 18 to 29-year-olds differ substantially by country (Laura & Aaron, 2019). Furthermore, according to the Turkish Statistical Institute, the average age for adolescents to start using a smartphone was ten years old. As reported by Pamuk and Atli (2016), smartphone use can cause difficulties in some people, including excessive, problematic smartphone use. In addition, poor smartphone use also proved to be linked with sadness, loneliness, academic procrastination, and sleep quality.

2.3 Smartphone Addiction

Smartphone addiction is a disorder involving compulsive overuse of mobile devices, usually quantified as the number of times users access their devices and/or the total amount of time

they are online over a specified period. Addiction to smartphone technology and internet service falls under the psychological demands of belongingness, love, and esteem. In this light, addiction to technology, in anything, may be regarded as a need to acquire a sense of connection and intimacy that is lacking in real life (Yin et al., 2019).

According to Olsen et al. (2022), smartphone addiction has been done on a large scale involving 24 countries including Malaysia, and also the respondents range from 15 to 35 years old, indirectly students are also involved in the respondents of this study. A study conducted by researchers from Harvard, McGill, and Chapman University released results that showed Malaysia ranked third after China and Saudi Arabia for smartphone addiction. The data used from 2014 to 2020 increased, and it is expected that this trend will continue. They also added that the problem of addiction in the increasing use of smartphones can have psychological effects.

2.4 Internet Addiction

Over the last 20 years, the concept of internet addiction has been intensively contested and evolved significantly. Regardless of such arguments, a minority of Internet users will get hooked; this addiction is classified as a behavioural addiction that is frequently connected with substantial physical and mental health-related deficits. According to Chang et al. (2020), about three out of ten teenagers (29.0%) were hooked to the internet. The rapid evolution of networking and the wide spread of internet coverage areas, as well as the low cost of internet services, are expected to increase the prevalence of Internet addiction in Malaysia, as are increased internet usage for educational and recreational activities, and widespread use of smartphones among adolescents.

Individual internet use in Malaysia climbed to 96.8 percent in 2021, up from 89.6 percent in 2020. Participating in social networks was the most common internet usage activity in 2021, accounting for 99.0 percent, followed by playing or downloading games (91.8%), obtaining information or services (89.4%), making phone calls through the internet (89.2%), and downloading programmes (86.3%) (Department of Statistic Malaysia, 2022).

3.0 METHODOLOGY

This quantitative study applied a cross-sectional survey using the stratified random sampling technique. The respondents were among the final semester students from Bachelor of Administrative Science & Policy Studies selected according to the ratio calculated in Table 1. The data was gathered through self-administered questionnaires as the instrument.

Table 1. Sampling technique and sample size

SEMESTER	POPULATION	SAMPLE SIZE
1	53	$53 \times 43.5\% = 23$
3	107	$107 \times 43.5\% = 47$
4	111	$111 \times 43.5\% = 48$
5	99	$99 \times 43.5\% = 43$
6	121	$121 \times 43.5\% = 53$
TOTAL	491	214

4.0 RESULT AND DISCUSSION

4.1 Result for Demographic Profiles

A total of 214 respondents participated in this study. As indicated in Table 2 most of the respondents were female with 303 respondents (69%) and male with 94 respondents (31%). The majority of the respondents' age were 22 years old and above while the remaining were

below 22 years old with 224 (73.9%) and 79 (26.1%) respectively. Next, the Cumulative Grade Point Average (CGPA) of 3.00-3.47 was recorded as the highest with 142 (46.9%) respondents while a CGPA of 2.00-2.99 was recorded as the least with 3 (0.9%) respondents. Furthermore, most respondents were from semester 6 with 74 respondents (24.4%) while the least respondents were from semester 1 with 32 (10.6%). The result also indicates that most of the respondents owned up to 3 gadgets represented by 285 (94.1%) while only 1 respondent (0.3%) owned only 1 gadget. The majority of the respondents use smartphones for more than 7 hours per day which is represented by 151 (49.8%) respondents. The results also indicate that WhatsApp is the most used application responded to 275 (90.8%) respondents. Lastly, most of the respondents spend between RM31 – RM50 per month to buy top-up which represented by 221 (72.9%) respondents while the least respondents with 17 (5.6%) spend <RM30 to buy top-up per month.

Table 2. Demographic Profiles of the Respondents

Profile	Frequency	Percentage (%)
<i>Gender:</i>		
Male	94	31
Female	209	69
<i>Age:</i>		
Below 22 years old	79	26.1
22 years old and above	224	73.9
<i>Current CGPA:</i>		
0.00 - 1.99	32	10.6
2.00 - 2.99	3	0.9
3.00 - 3.49	142	46.9
3.50 - 4.00	126	41.6
<i>Current Semester:</i>		
1	32	10.6
3	67	22.1
4	69	22.8
5	61	20.1
6	74	24.4
<i>Number of Gadgets Owned:</i>		
1	1	0.3
2-3	285	94.1
4-7	17	5.6
<i>Hours Spend Using Smartphone (per day):</i>		
Less than 1 hour	5	1.7
1 hours – 4 hours	33	10.9
4 hours – 7 hours	114	37.6
More than 7 hours	151	49.8
<i>Most used application:</i>		
WhatsApp	275	90.8
Twitter	165	54.5
TikTok	235	77.6
Instagram	180	59.4
Facebook	74	24.4
Telegram	79	26.1
<i>Money Spend Buying Top-up (per month):</i>		
< RM30	17	5.6
RM31 – RM50	221	72.9
>RM50	65	21.5

4.2 Result for Level of Nomophobia among Undergraduate Students in UiTM Kedah

Table 3. Mean Value on Nomophobia among Undergraduate Students in UiTM Kedah

Statements on Nomophobia	Mean Value
1. I would like to have constant connections or keep in touch with my family/friends.	4.40
2. I would like to be with my smartphone avoiding getting stranded somewhere.	4.33
3. Running out of battery in my smartphone would scare me.	4.25
4. I lose track of how much I am using my smartphone.	4.27
5. I check my notifications for updates from my connections and online networks even though there is no need to do so.	4.14
6. I would constantly check to see if I had a signal and could find a Wi-Fi network.	4.17
7. I constantly top up my internet to get the stories or news from social media.	4.09
8. I would feel a desire to check my smartphone every minute.	4.11
9. I would like to be able to get the news (for example: what's happening, weather, etc) on my smartphone.	4.17
10. Without my phone, I would feel lost.	4.19
Average Mean Value	4.20

Table 3 above indicates the mean value for each statement used in measuring the level of Nomophobia among undergraduate students in UiTM Kedah. Based on the result, the average mean of Nomophobia among the respondents is 4.20 which is influenced by the mean value for all statements recorded at the value of 4.00 and above. From all the mean scores, Statement 1 recorded with highest mean of 4.40, showing that the item is doubtless to predict the level of Nomophobia among Bachelor of Administrative students. Compatible with Dixit et al. (2010), smartphone provides them with the right to communicate on any occasion. This allows them to use their smartphones freely. Therefore, this result reflects that the level of Nomophobia among undergraduate students in UiTM Kedah is at a high level.

4.3 Result for Correlations between Smartphones Usage, Smartphones Addiction, and Internet Addiction on Nomophobia among Undergraduate Students in UiTM Kedah

Table 4. Summary of Correlations between Smartphones Usage, Smartphones Addiction, and Internet Addiction on Nomophobia among Undergraduate Students in UiTM Kedah

Correlations between Smartphones Usage and Nomophobia	
Sig. (2-tailed) (p-value) 0.000	Strong positive relationship
Pearson correlation (r-value) 0.844**	
Correlations between Smartphones Addiction and Nomophobia	
Sig. (2-tailed) (p-value) 0.000	Strong positive relationship
Pearson correlation (r-value) 0.829**	
Correlations between Internet Addiction and Nomophobia	
Sig. (2-tailed) (p-value) 0.000	Strong positive relationship
Pearson correlation (r-value) 0.824**	

**Correlation is significant at the 0.01 level (2-tailed)

Table 4 indicates the summary of correlations between smartphone usage, smartphone addiction, and internet addiction on nomophobia among undergraduate students in UiTM Kedah. Based on the results, it clearly stated that all factors tested which are smartphone usage, smartphone addiction, and internet addiction have a strong positive relationship with Nomophobia. These results determined by the r-value are more than 0.800 for each factor analysed.

The results on the correlations between the factors tested towards Nomophobia are much influenced by the respondents' demographic profiles. As such, the question on the "*Number of gadgets owned*" indicates that students have more than one gadget whereas the majority have 2 to 3 gadgets with a result of 94.1%. This does not rule out the possibility of students spending their time using gadgets excessively because they have a 'back-up' gadget if one of them runs out.

Furthermore, it can be seen that a total of 151 students equivalent to 49.8% have spent more than 7 hours using gadgets. This majority was followed by 114 (37.6%) students who spent 4 to 7 hours a day. This shows that students have spent an excessive amount of time with their smartphones at the same time making them addicted and it is difficult to get rid of this habit as they are used to it. This result suggests students are comfortable and do not mind wasting more time on gadgets at once it will be hard to find something to dismiss this unhealthy habit.

Besides, 75.5% chose to agree and strongly agreed with the statement "*I often choose to spend more time online over going out with others*", and as many as 71.9% chose to agree and strongly agree with the item "*I often feel preoccupied with the Internet when offline, or fantasize about being online*". This number shows that most respondents agree that they spend a lot of time on the internet which directly leads them to internet addiction.

Overall, the results of this study strengthen the idea that the respondents prefer spending more time on the internet with an average spending time of more than 4 hours daily. Even though the respondents were proved to have a high nomophobia but statistically shown that this scenario led to a positive implication towards their academic achievement. Most of the respondents (88.5%) were able to achieve a good grade between 3.00 – 4.00 in their CGPA. Hence, this data signifies that reliance on smartphones does have positive implications, it is just a matter of how the smartphones are being used.

5.0 CONCLUSION

In conclusion, this study revealed that there is a high level of Nomophobia among undergraduate students at UiTM Kedah. The majority of respondents are heavy smartphone users with at least 7 hours a day using smartphones and respondents tend to skip housework rather than using smartphones. Respondents who are exposed to the excessive use of smartphones are only aware of the benefits it provides and they are not aware of the potential risks they will face. In addition, to prevent Nomophobia from emerging and its negative effects, it is important to encourage the responsible and effective use of smartphones in the learning environment. Finally, we great dependence that all the factors tested in this study indeed have a strong positive correlation with Nomophobia among respondents.

6.0 SUGGESTION FOR FUTURE RESEARCH

Besides the findings that have been identified in this study, it is suggested for future research to explore other dimensions as potential contributors and determinants towards Nomophobia. The background of the course or program undertaken by students is wise to be taken into consideration too. It is also recommended for future research to use workers as the unit of analysis. Next, the future researcher can mix the methodologies by integrating the qualitative and the quantitative modes of study. Having the mixed method, can provide a more comprehensive and nuanced understanding of the research problem and enhance the validity of the results. Lastly, the future researcher also suggested employing T-test analysis to determine the difference between male and female respondents in identifying which group of respondents is more susceptible to nomophobia. This may contribute to the enrichment and diversification of data and findings in the body of knowledge and the literature.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. Author 1 carried out the fieldwork and prepared the literature review. Author 2 wrote the research methodology and did the data entry. Author 3 carried out the statistical analysis and interpretation of the results and overlooked the write-up of the whole article.

REFERENCES

- Ying Ying, C., Awaluddin, S. M., Kuang Kuay, L., Siew Man, C., Baharudin, A., Miaw Yn, L., ... & Ibrahim, N. (2020). Association of internet addiction with adolescents' lifestyle: A national school-based survey. *International Journal of Environmental Research and Public Health*, 18(1), 168.
- Dixit, S., Shukla, H., Bhagwat, A. K., Bindal, A., Goyal, A., Zaidi, A. K., & Shrivastava, A. (2010). A study to evaluate mobile phone dependence among students of a medical college and associated hospital in central India. *Indian Journal of Community Medicine*, 35(2), 339-341.
- Olson, J. A., Sandra, D. A., Colucci, É. S., Al Bikaii, A., Chmoulevitch, D., Nahas, J., ... & Veissière, S. P. (2022). Smartphone addiction is increasing across the world: A meta-analysis of 24 countries. *Computers in Human Behavior*, 129.
- Yin, K. T., Yahaya, A. H., Sangryeol, C., Maakip, I., Voo, P., & Maalip, H. (2019). Smartphone usage, smartphone addiction, internet addiction and Nomophobia in University Malaysia Sabah (UMS). *Southeast Asia Psychology Journal*, 7, 2-13.
- Malaysian Communications. Multimedia Commission. (2014). *Handphone users survey*. <http://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-Hand-Phone-User19112015.pdf>.
- Pamuk, M., & Atli, A. (2016). Development of a problematic mobile phone use scale for university students: Validity and reliability study. *Dusunen Adam The Journal of Psychiatry and Neurological Sciences*, 29(1), 49.
- Columbia Broadcasting System (CBS) Philadelphia. (September 27, 2012). Study shows 66%of people suffer from Nomophobia. *CBS News Philadelphia*. <https://www.cbsnews.com/philadelphia/news/study-66-of-people-have-nomophobia-fear-of-being-without-phone>.
- Department of Statistics Malaysia. (2022, April 28). *ICT use and access by individual and households survey report, Malaysia, 2021*. <https://v1.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=bCs4UINSQktybTR3THZ3a0RzV2RkUT09>.

WORKPLACE OSTRACISM THROUGH THE LENS OF RECIPROCITY THEORY

Farsha Farahana Ahmad Izhan^{1*}, Nor Azairiah Fatimah Othman², Muhammad Majid³

^{1,2,3}Faculty of Business and Management, Universiti Teknologi MARA,
Cawangan Johor Kampus Segamat

*Corresponding Author

Email: ¹farshaizhan97@gmail.com, ²norazairiah@uitm.edu.my, ³muhdmajid@uitm.edu.my

Received: 30th November 2023

Accepted: 28th March 2024

ABSTRACT

Establishing a healthy co-worker relationship is the heart of developing a harmonious working environment. The area of organizational behaviour has paid less attention to workplace ostracism (WO) which can have a negative impact on the workplace environment. It is a prominent issue in the workplace that needs to be further investigated and studies on this issue are diverse and large. Thus, this paper comprehensively reviews the literature related to WO in two aspects. Firstly, it discusses counterproductive work behaviour (CWB) as an implication of ostracism from the perspective of reciprocity theory. Secondly, to investigate emotional intelligence (EI) potential to mitigate ostracized employees from acting defensively at work. This paper reveals that CWB emerged as a toxic behaviour due to WO. Meanwhile, positive EI can prevent employees from ostracizing others. Addressing this issue can reveal that CWB can potentially lead to ostracizing behaviour and EI as a reducing factor to the relationship.

Keywords: Workplace Ostracism, Counterproductive Work Behaviour, Reciprocity Theory, Emotional Intelligence

1.0 INTRODUCTION

One of the most crucial aspects of an individual's life is their job and a significant amount of time is spent at work. Therefore, developing strong and healthy relationships among employees has become essential in the organization. However, one of the most frequent issues that take place in the workplace environment is ostracism, which is seen as a widespread issue in organizations. Workplace ostracism (WO) refers to being excluded, ignored, or left out of social relationships in organizational settings (Howard, 2019) and it is sometimes known as "social death" that is common in organizations (Li et al., 2021). When ostracism occurs in the workplace, it can cause undesirable organizational outcomes. This is because ostracism behaviour can contribute to employees behaving counter to social norms, resulting in negative behaviours (Ong, 2022). Research has shown that those who are ostracised are more likely to act aggressively and engage in deviant behaviour (Qi et al., 2020). Thus, the primary concern of this paper is the consequences of WO in having a significant impact on the organization.

Apart from that, it is vital to explore the controlling factor from the perspective of individual traits in reducing negative behaviour caused by ostracism. Based on the previous study, employees may control their emotional states by using emotional intelligence (EI), which helps

them control the unpleasant feelings triggered by WO (Zhang & Shi, 2017). For example, employees with high EI will be able to handle being ostracized at work better than those with low EI. Thus, EI as a personal trait can be considered a controlling factor of ostracizing behaviour.

1.1 Problem Statement

Workplace ostracism was an ongoing problem in the organization, as most employees had encountered it. Based on the statistics from past research of approximately 1300 employees, 71% of employees identified themselves as victims of WO (O'Reilly et al., 2015). Similarly, in another research, 66% of employees reported receiving quiet treatment from coworkers at work (Fox & Stallworth, 2005). When employees feel they are being neglected, ostracised, or rejected by others at work, it becomes a major issue and has significant negative effects on the employee and organization. WO is an unpleasant experience that can have an impact on many kinds of behavioural reactions (Haldorai et al., 2022). It has been discovered that WO causes counterproductive work behaviour (CWB) and other deviant behaviours among employees. De Clercq et al. (2018) agreed that WO has negative effects on social interaction which leads to employees engaging in CWB which may disrupt organizational culture and cause the company to suffer significant financial losses. Furthermore, it also can affect job satisfaction (Chung & Kim, 2017) which can negatively influence employee performance (Setyawati et al., 2023).

From the perspective of the organization's impact of WO, several studies have shown that it triggers employees' actual turnover, which incurs organizational recruitment and training costs (Zhang et al., 2019). It can relate to the situation of a poor work environment might lead to increased turnover intentions (Hadi & Adriansyah, 2023). Other than that, ostracized employees were engaged in cyberloafing, which can waste organizational resources because it involves using online resources for activities unrelated to their jobs (Koay, 2018). In the long term, these negative workplace behaviours can create challenging issues for the organization's sustainability. As supported by Sharma and Dhar (2022), organizations with a history of ostracism are more likely to suffer. Despite the consequences of WO, what controls employees from ostracizing one another has been ignored (Chang et al., 2021). According to the literature, individual characteristics have a significant role in determining how to manage the harmful effects of ostracism (Wu et al., 2016). Thus, this paper will discuss how EI can influence an employee to practice ostracism in the workplace.

2.0 LITERATURE REVIEW

2.1 Workplace Ostracism

Ostracism can be defined as a type of exclusion, rejection, interpersonal abuse, and social death, including severe and painful psychological and physical experiences (Xu et al., 2020). Ostracism in the workplace presents itself as isolation, segregation, leaving the room upon the entry of another person, avoiding eye contact, neglecting to respond to a coworker's greetings, and relocating someone to a remote area (Robinson & Schabram, 2017). It often has two motives: purposeful or non-purposeful, and both forms of ostracism are likely to result in interpersonal deviance. Purposeful ostracism happens when the actor is aware of his or her unwillingness to socially engage another and acts intentionally while non-purposeful ostracism occurs when actors are unaware that their actions aim to socially exclude another (Robinson & Schabram, 2017). Also, ostracism, a kind of "cold violence," is characterized as employees believing they are being ignored or ostracised at work (Ferris et al., 2008).

It is a complex phenomenon because it involves an individual's counter-normative acts with uncertain purpose and is difficult to distinguish from other interpersonal mistreatments such as bullying and aggressiveness (Naseer et al., 2018) and it is characterized as passive-

aggressive behaviours (Liu & Xia, 2016). A previous study has demonstrated that WO can have significant adverse effects like harassment and aggressiveness (Jahanzeb et al., 2020). Scholars have identified dispositional traits, ability and skill, behaviour features, and working context as factors in WO (Mao et al., 2018). Accordingly, people who are more emotionally stable, and have positive affectivity, self-esteem, extraversion, agreeableness, and proactive personalities are less likely to experience ostracism.

2.2 Reciprocity Theory

Reciprocity is defined as exchanges of approximately equivalent values in which each party's actions are dependent upon the previous behaviour of the others in such a way that good is returned for good and bad for bad (Keohane, 1986). The concept that people should repay those who have harmed them is rooted in the theory of reciprocity and is known as the negative reciprocity view. Based on the rules of reciprocity, individuals must treat others in the same way they would like to be treated. The negative reciprocity belief indicates a negative response to a negative treatment (Sun et al., 2022). It shows that the negative reciprocity belief is the suitable approach to respond to any unfair treatment. In contra to the positive reciprocity belief, people should not do anything negative to those who do them well.

The negative reciprocity theory can explain why people behave badly in working life such as workplace deviance. Interpersonal deviance might be seen as a kind of retaliation motivated by the negative reciprocity belief that can result from being ostracised at work (Hua et al., 2023). Previous studies found that employees who have been ostracised are more likely to engage in passive punishment by exercising the knowledge of hiding in response to unfair treatment (Sun et al., 2022).

In the aspect of negative reciprocity theory and WO, Hua et al. (2023) put forward the positive relationship between WO and interpersonal deviance. According to the norms of reciprocity, employees express negative feelings through reciprocity (Du Hengbo, 2020), leading to workplace ostracism when they disengage from work (Jahanzeb et al., 2020). Another view is the perception of WO is an unfavourable experience which may trigger negative reciprocity belief (Zhao et al., 2016). Employees who are ostracised will take revenge, either actively by acting detrimentally or passively, such as by withholding information (Greco et al., 2019). Employees may demonstrate aggressive conduct in response to workplace ostracism, including aggressiveness ideas, retaliation scripts, negative assessment, and attribution. In contrast, employees who have a negative belief in reciprocity often assume that revenge is an acceptable approach to avoid ostracism (Eisenberger et al., 2004).

A review of these studies reveals that WO specifically purposeful ostracism is an unfavourable treatment that causes a negative reciprocity belief. Overall, negative reciprocity belief may lead ostracized individuals to conclude that it is acceptable to take direct action against those who ostracize them, and this may engage them in a more interpersonal form of CWB. Therefore, from the standpoint of negative reciprocity theory, it can provide a better understanding of why employees engage in interpersonal deviance through WO.

2.3 Counterproductive Work Behaviour

According to Spector et al. (2006), CWB is defined as purposeful acts of aggression by employees that might be threatening the interests of an organization or its stakeholders. Employees' behaviour that is harmful to both the employees and the organization, such as activities that are counter to the organization's advantages and interests is referred to as unproductive work behaviour (Fatima, 2016; Khan et al., 2021). CWB refers to a variety of different terms that can be seen in Table 1. All these terms have a few similar characteristics: first, the behaviour goes against the organization's usual norms or principles; second, the

behaviour is harmful and poses a threat to employees and the organization; and third, the behaviour harms the organization and its stakeholders, including its employees (Ong, 2022).

Also, Spector et al. (2006) suggested that there are five aspects of CWB which are (1) abuse: which involves actions taken against coworkers with the intent of hurting them physically or mentally through threats, (2) production deviance: a failure to accomplish work and follow the path that is expected of them, (3) sabotage: it is taking property belonging to the company without consent, (4) theft: it involves behaviours such as arriving late to work, having a high absence rate, quitting work early, and taking extended breaks and (5) withdrawal: it is behaviour that limits the amount of time spent working to less than what the organization requires. Individual (Zhang et al., 2019) and environmental variables (Ma et al., 2019) also have an impact on CWB, which are a sort of aggressive behaviour (Li et al., 2020).

Table 1. Types of Negative Workplace Behaviours

Types	Definition	Other terms	Authors
Counterproductive Work Behaviour	Purposeful acts of aggression by employees that might be threatening the interests of an organization or its stakeholders.	Anti-citizenship behaviour, production deviance, property deviance, sabotage, theft	Spector et al. (2006)
Workplace ostracism	The degree to which an individual believes he or she is being ignored or excluded by the organizational phenomenon.	Exclusion, isolation	Ferris et al. (2008)
Workplace aggression	Individuals' attempts to harm people with whom they work or have previously worked, or the organizations in which they are currently or have previously worked.	Coworker abuse, relational aggression, interpersonal aggression	Neuman & Baron (1997)
Incivility	Low-intensity deviant behaviour with uncertain intent to damage the victim, in breach of workplace norms for mutual respect.	Gossiping, workplace hostility, personal mistreatment, interpersonal transgressions	Blau & Andersson (2005)
Interpersonal conflict	Interpersonal incompatibilities between group members, often involve tension, antagonism, and frustration among group members.	Relationship conflict	Jehn (1995)
Withdrawal	Dissatisfied persons engage in a set of behaviours aimed at preventing engagement in dissatisfying job settings.	Absenteeism, turnover, neglect	Hanisch & Hulin (1990)
Abusive supervision	The degree to which supervisors exhibit aggressive verbal and nonverbal behaviours consistently, avoiding Physical contact.	Negative/destructive supervisor behaviour, supervisor undermining	Tepper (2000)

2.4 Workplace Ostracism and Counterproductive Work Behaviour

The relationship between WO and CWB has been reported from previous perspectives. WO can cause poor self-worth and in turn, this can prevent employees from exercising self-control which might drive them to act aggressively toward others (Zhang et al., 2019). Other than that, ostracism affects people's self-regulation processes which can result in maladaptive

behaviours including self-defeating and aggressive behaviours (Yang & Treadway, 2018). Moreover, the employee is more likely to engage in CWB while experiencing negative emotions such as stressful situations due to ostracism (Chen et al., 2020). When someone is ostracised, they might attack a safer target such as an organization rather than superiors or friends (Gurlek, 2021). This is because they believe if they ostracize their superiors or friends, they may jeopardize the future of their jobs including their social status and promotion opportunities, and fear of reprisals.

Many prior studies revealed that ostracism correlated with CWB. For instance, Peng and Zeng (2017) consistently discovered that WO has a strong influence on employees to engage in undesirable behaviour, such as deviant behaviour. A recent study also found that WO has a positive impact on employees' tendency to engage in CWB (Zhu & Zhang, 2021). Similarly, Yang and Treadway (2018) discovered in their study that employee ostracism leads to CWB. Therefore, considering the existing studies, it can be concluded that CWB happens through employee-felt ostracism.

2.5 Emotional Intelligence

EI is defined by Salovey and Mayer (1990) as the capacity for the ability to perceive emotions, access and generate emotions to support thought, comprehend emotions and emotional knowledge, as well as reflect on and regulate emotions to support emotional and intellectual growth. Another definition by Goleman (1995) EI is the ability to recognize and understand one's own and others' emotional reactions, and to apply this knowledge to guide one's thinking and actions. It highlights the significance of employing emotional awareness to control behaviour and decision-making. It includes four components: self-awareness, self-management, social awareness, and relationship management.

EI is a key personality trait that influences employees' behavioural patterns. It is the use of the mental ability to solve difficulties, deal with increasing demands, recognize self-development and the formation of relationships with others (George et al., 2022). An employee with a high EI would be able to interpret, perceive, and manage their emotions better in a way that might impact their effectiveness at work (Arshad et al., 2023). This is because an employee with strong EI often chooses good coping mechanisms over negative ones (Attaullah & Afsar, 2021). When they are skilled at controlling their own emotions and those of others, they are more likely to behave appropriately and form meaningful relationships with their coworkers.

2.6 Counterproductive Work Behaviour and Emotional Intelligence

When employees believe they are unable to handle difficulties or manage themselves in stressful situations, they tend to engage in CWB (Ma & Liu, 2019). This is due to individuals with a higher level of EI who can interpret, control, and use emotional information better than those with lower levels (Chen & Li, 2019). Studies have indicated that EI is crucial for people managing stressful circumstances (Abdollahi et al., 2016). A study by Attaullah and Afsar (2021) used EI to describe the underlying process of WO influencing engagement in CWB. Furthermore, Sharma et al. (2016) proposed that EI has a moderating effect on the relationship between workplace conflict, individual emotional and behavioural responses. Also, a positive correlation was found between interpersonal conflict and CWB, however, these relationships are reduced at higher levels of EI (Kundi & Badar, 2021). Other findings demonstrate the ability of EI to moderate the positive correlation between CWB and burnout (Ugwu et al., 2017). As a result, the previous studies suggest that EI may act as a moderator in the relationship between WO and CWB.

2.7 Emotional Intelligence and Workplace Ostracism

There are few scholars studying the relationship between EI and WO. The findings from the research show that people with high EI can handle ostracism at work better (Sahoo et al., 2022) and EI has a negative relationship with WO (Zaman et al., 2021). Highly EI employees can handle the feeling of being ostracized by others, thus they attempt to avoid organizational conflict. This is because the employees can assess if these feelings are appropriate for the situation and use emotional management skills to determine it is in their best interests to ignore their thoughts of WO (Zhang & Shi, 2017). In contrast, those with low EI are more negatively impacted by unfavourable and difficult workplaces since they are less likely to defend themselves from these ostracised situations (Srivastava et al., 2019). Overall, employees with EI will be able to cope with ostracizing behaviour than those with lower EI and this can be a key component in reducing WO.

2.8. Conceptual Framework

Based on the research objectives, Figure 1 below presents the conceptual framework that shows the two relationships. The first direct relationship is between workplace ostracism and counterproductive work behaviour and the second is the moderating of emotional intelligence between workplace ostracism and counterproductive work behaviour.

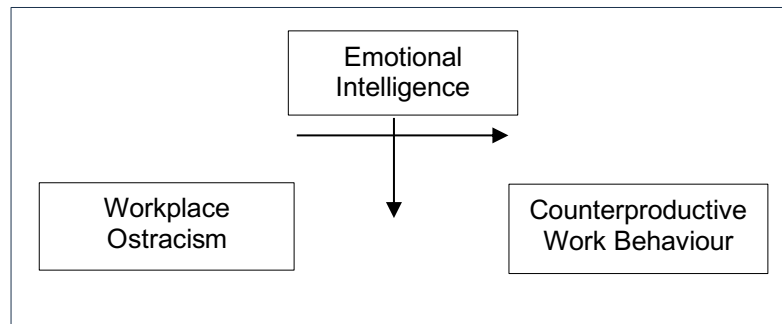


Fig 1. Conceptual Framework (source by author)

3.0 METHODOLOGY

Following the qualitative approach, this study is based on existing literature reviews, empirical evidence, and theories to identify concepts that are relevant to the contribution of the understanding of this research topic. Since this paper is based on a conceptual framework, data collection is not applicable. This involves primary sources of data from academic databases such as Web of Science, Scopus, and Google Scholar. This initial process involves an in-depth critical analysis of existing theoretical models and a recent literature review to identify the research gap and a comprehensive understanding of workplace ostracism in the context of reciprocity theory. Then, a conceptual framework was developed based on the findings that can guide the discussion and enable a comprehensive analysis of the topic. This framework serves as key concepts and relationships that are relevant to CWB due to WO and EI as moderating factors.

4.0 DISCUSSION

This paper explores that WO can lead to negative employee behaviour while highlighting EI as the controlling factor that can help employees handle ostracizing behaviour. From the perspective of reciprocity theory which suggests that individuals should treat others as they would like to be treated, leading to negative responses to unfair treatment. This theory can explain why ostracized employees may take direct action against those who ostracize them, leading to CWB. Furthermore, as supported by the previous studies, there is a strong

correlation between WO and CWB. For the coping mechanisms, research indicates that individuals with EI are better equipped to manage ostracism at work which can potentially reduce WO. This suggests that fostering EI skills among employees could be an effective strategy to combat this issue. Thus, EI plays a crucial role in managing WO as it can moderate the relationship between WO ostracism and CWB.

5.0 CONCLUSION

To sum up, this paper discusses the issue of WO which has been proven to stimulate counterproductive and deviant behaviours as well as its impact on employees and organizations. Based on the previous findings, belief in reciprocity can influence the relationship between WO and fear of negative evaluation (Khair & Fatima, 2017). Also, the negative reciprocity theory strengthened the relationship between WO and defensive silence (Yao et al., 2022). In terms of the relationship between WO and CWB, WO is a major predictor of CWB (Shafique et al., 2021). The study of Gurlek (2021) provided support that WO had a positive relationship with CWB.

In response to this issue, employees can utilize EI to regulate their emotional states which helps them control negative sentiments caused by WO. This is because employees with high EI are better equipped to deal with WO than those with low EI. As a result, EI as an individual trait might be viewed as a mitigating factor for employees from practicing ostracism. By addressing this issue, it may become clear that CWB may result in ostracising behaviour and that EI is buffering the relationship. As this study is based on a conceptual paper review from the previous scholar, the framework has yet to be implemented. Thus, a future study is recommended to examine EI as a mitigating factor between CWB and ostracism.

CO-AUTHOR CONTRIBUTION

The authors have declared that there is no conflict of interest in this paper. All authors made significant contributions to the research and preparation of this article.

ACKNOWLEDGMENTS

This project was funded by FRGS Grant, Ministry of Higher Education Malaysia with grant code FRGS/1/2022/SS02/UITM/02/13.

REFERENCES

- Abdollahi, A., Carlbring, P., Khanbani, M., & Ghahfarokhi, S. A. (2016). Emotional intelligence moderates perceived stress and suicidal ideation among depressed adolescent inpatients. *Personality and Individual Differences*, 102, 223–228. <https://doi.org/10.1016/j.paid.2016.07.015>.
- Arshad, M. A., Arshad, D., & Zakaria, N. (2023). Mediating role of wellbeing among organizational virtuousness, emotional intelligence and job performance in post-pandemic COVID-19. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1105895>.
- Attaullah, & Afsar, B. (2021). Workplace ostracism and counterproductive work behaviors in the healthcare sector: A moderated mediation analysis of job stress and emotional intelligence. *Dynamic Relationships Management Journal*, 10(1), 73–92. <https://doi.org/10.17708/DRMJ.2021.v10n01a05>.
- Blau, G., & Andersson, L. (2005). Testing a measure of instigated workplace incivility. *Journal of Occupational and Organizational Psychology*, 78(4), 595–614. <https://doi.org/10.1348/096317905X26822>.

- Chang, K., Kuo, C. C., Quinton, S., Lee, I., Cheng, T. C., & Huang, S. K. (2021). Subordinates' competence: A potential trigger for workplace ostracism. *International Journal of Human Resource Management*, 32(8), 1801–1827. <https://doi.org/10.1080/09585192.2019.1579246>.
- Chen, Y., & Li, S. (2019). The relationship between workplace ostracism and sleep quality: A mediated moderation model. *Frontiers in Psychology*, 10, 319. <https://doi.org/10.3389/fpsyg.2019.00319>.
- Chung, Y. W., & Kim, T. (2017). Impact of using social network services on workplace ostracism, job satisfaction, and innovative behaviour. *Behaviour & Information Technology*, 36(12), 1235–1243. <https://doi.org/10.1080/0144929X.2017.1369568>.
- Coyne, S. M., Gundersen, N., Nelson, D. A., & Stockdale, L. (2011). Adolescents' prosocial responses to ostracism: An experimental study. *The Journal of Social Psychology*, 151(5), 657–661. <https://doi.org/10.1080/00224545.2010.522625>.
- De Clercq, D., Haq, I. U., Azeem, M. U., & Raja, U. (2018). Family incivility, emotional exhaustion at work, and being a good soldier: The buffering roles of waypower and willpower. *Journal of Business Research*, 89, 27–36. <https://doi.org/10.1016/j.jbusres.2018.04.002>.
- Du Hengbo, Z. Q. (2020). A study of the influence mechanism of workplace negative gossip on employees' knowledge hiding. *Science Research Management*, 41(3), 264.
- Eisenberger, R., Lynch, P., Aselage, J., & Rohdieck, S. (2004). Who takes the most revenge? Individual differences in negative reciprocity norm endorsement. *Personality and Social Psychology Bulletin*, 30(6), 787–799. <https://doi.org/10.1177/0146167204264047>.
- Fatima, A. (2016). Impact of workplace ostracism on counter productive work behaviors: Mediating role of job satisfaction. *Abasyn Journal of Social Sciences*, 9(2), 388–408.
- Ferris, D. L., Berry, J., Brown, D. J., & Lian, H. (2008). When silence isn't golden: measuring ostracism in the workplace. *Academy of Management Proceedings*, 2008(1), 1–6. <https://doi.org/10.5465/ambpp.2008.33725266>.
- Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the Workplace Ostracism Scale. *Journal of Applied Psychology*, 93(6), 1348. <https://psycnet.apa.org/doi/10.1037/a0012743>.
- Ferris, D. L., Chen, M., & Lim, S. (2017). Comparing and contrasting workplace ostracism and incivility. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 315–338. <https://doi.org/10.1146/annurev-orgpsych-032516-113223>.
- Fox, S., & Stallworth, L. E. (2005). Racial/ethnic bullying: Exploring links between bullying and racism in the US workplace. *Journal of Vocational Behavior*, 66(3), 438–456.
- George, O. J., Okon, S. E., & Akaighe, G. (2022). Emotional intelligence and work engagement: a serial mediation model. *Journal of Organizational Effectiveness: People and Performance*, 9(2), 193–211.
- Gurlek, M. (2021). Workplace ostracism, Syrian migrant workers' counterproductive work behaviors, and acculturation: Evidence from Turkey. *Journal of Hospitality and Tourism Management*, 46, 336–346. <https://doi.org/10.1016/j.jhtm.2021.01.012>.
- Hadi, J. S., & Adriansyah, A. (2023). Effect of compensation, working condition and burnout on turnover intention: Palm oil plantation in east Kalimantan Indonesia case. *Insight Journal*, 10(1). <https://doi.org/10.24191/insightjournal.v10i0.22345>.
- Haldorai, K., Kim, W. G., & Li, J. (Justin). (2022). I'm broken inside but smiling outside: When does workplace ostracism promote pro-social behavior? *International Journal of Hospitality Management*, 101. <https://doi.org/10.1016/j.ijhm.2021.103088>.
- Hanisch, K. A., & Hulin, C. L. (1990). Job attitudes and organizational withdrawal: An examination of retirement and other voluntary withdrawal behaviors. *Journal of Vocational Behavior*, 37(1), 60–78. [https://doi.org/10.1016/0001-8791\(90\)90007-O](https://doi.org/10.1016/0001-8791(90)90007-O).
- Hua, C., Zhao, L., He, Q., & Chen, Z. (2023). When and how workplace ostracism leads to interpersonal deviance: The moderating effects of self-control and negative affect. *Journal of Business Research*, 156. <https://doi.org/10.1016/j.jbusres.2022.113554>.

- Jahanzeb, S., Fatima, T., Javed, B., & Giles, J. P. (2020). Can mindfulness overcome the effects of workplace ostracism on job performance? *The Journal of Social Psychology*, 160(5), 589–602.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40(2), 256–282. <https://doi.org/10.2307/2393638>.
- Keohane, R. O. (1986). Reciprocity in international relations. *International Organization*, 40(1), 8. <https://doi.org/10.1017/S0020818300004458>.
- Khair, Q., & Fatima, T. (2017). Interactive effects of workplace ostracism and belief in reciprocity on fear of negative evaluation. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 11(3), 911–933. <http://hdl.handle.net/10419/188322>.
- Khan, M. T., Al-Jabri, Q. M., & Saif, N. (2021). Dynamic relationship between corporate board structure and firm performance: Evidence from Malaysia. *International Journal of Finance & Economics*, 26(1), 644–661. <https://doi.org/10.1002/ijfe.1808>.
- Koay, K. Y. (2018). Workplace ostracism and cyberloafing: a moderated–mediation model. *Internet Research*, 28(4), 1122–1141. <https://doi.org/10.1108/IntR-07-2017-0268>.
- Kundi, Y. M., & Badar, K. (2021). Interpersonal conflict and counterproductive work behavior: the moderating roles of emotional intelligence and gender. *International Journal of Conflict Management*, 32(3), 514–534. <https://doi.org/10.1108/IJCMA-10-2020-0179>.
- Li, C., Murad, M., Shahzad, F., Khan, M. A. S., & Ashraf, S. F. (2020). Dark tetrad personality traits and counterproductive work behavior among doctors in Pakistan. *The International Journal of Health Planning and Management*, 35(5), 1173–1192. <https://doi.org/10.1002/hpm.3025>.
- Li, M., Xu, X., & Kwan, H. K. (2021). Consequences of Workplace Ostracism: A Meta-Analytic Review. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.641302>.
- Liu, H., & Xia, H. (2016). Workplace ostracism: A review and directions for future research. *Journal of Human Resource and Sustainability Studies*, 04(03), 197–201. <https://doi.org/10.4236/jhrss.2016.43022>.
- Ma, B., Liu, S., Lasseleben, H., & Ma, G. (2019). The relationships between job insecurity, psychological contract breach and counterproductive workplace behavior: Does employment status matter? *Personnel Review*, 48(2), 595–610. <https://doi.org/10.1108/PR-04-2018-0138>.
- Ma, J., & Liu, C. (2019). The moderating effect of emotional intelligence on the relationship between supervisor conflict and employees' counterproductive work behaviors. *International Journal of Conflict Management*, 30(2), 227–245. <https://doi.org/10.1108/IJCMA-11-2017-0140>.
- Mao, Y., Liu, Y., Jiang, C., & Zhang, I. D. (2018). Why am I ostracized and how would I react? —A review of workplace ostracism research. *Asia Pacific Journal of Management*, 35, 745–767.
- Naseer, S., Raja, U., Syed, F., & Bouckenooghe, D. (2018). Combined effects of workplace bullying and perceived organizational support on employee behaviors: does resource availability help? *Anxiety, Stress, & Coping*, 31(6), 654–668. <https://doi.org/10.1080/10615806.2018.1521516>.
- Neuman, J. H., & Baron, R. A. (1997). Aggression in the workplace. In *Antisocial behavior in organizations* (pp. 37–67). Sage Publications, Inc.
- Ong, J. E. L. (2022). Workplace ostracism and banking employees' counterproductive work behavior in the Malaysian banking sector. *International Journal of Management Studies*, 29(2), 23–44. <https://doi.org/10.32890/ijms2022.29.2.2>.
- O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2015a). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science*, 26(3), 774–793. <https://doi.org/10.1287/orsc.2014.0900>.
- O'Reilly, J., Robinson, S. L., Berdahl, J. L., & Banki, S. (2015b). Is negative attention better than no attention? The comparative effects of ostracism and harassment at work. *Organization Science*, 26(3), 774–793.

- Qi, L., Cai, D., Liu, B., & Feng, T. (2020). Effect of workplace ostracism on emotional exhaustion and unethical behaviour among Chinese nurses: A time-lagged three-wave survey. *Journal of Advanced Nursing*, 76(8), 2094–2103. <https://doi.org/10.1111/jan.14405>.
- Renn, R., Allen, D., & Huning, T. (2013). The relationship of social exclusion at work with self-defeating behavior and turnover. *The Journal of Social Psychology*, 153(2), 229–249. <https://doi.org/10.1080/00224545.2012.723642>.
- Robinson, S. L., & Schabram, K. (2017). Invisible at work: Workplace ostracism as aggression. In *Research and Theory on Workplace Aggression* (pp. 221–244). Cambridge University Press. <https://psycnet.apa.org/doi/10.1017/9781316160930.010>.
- Sahoo, B. C., Sia, S. K., Mishra, L. K., & Wilson, M. J. A. (2022). Workplace ostracism and organizational change cynicism: moderating role of emotional intelligence. *Journal of Asia Business Studies*, 17(3). <https://doi.org/10.1108/JABS-12-2021-0499>.
- Setyawati, N., Giningroem, D., & Rohaeni, H. (2023). Discipline, Motivation, and Ob Satisfaction on Employee Performance AT PT XX. *Insight Journal*, 10(1). <https://doi.org/10.24191/insightjournal.v10i0>.
- Shafique, I., Qammar, A., Kalyar, M. N., Ahmad, B., & Mushtaq, A. (2021). Workplace ostracism and deviant behaviour among nurses: a parallel mediation model. *Journal of Asia Business Studies*, 15(1), 50–71. <https://doi.org/10.1108/JABS-03-2020-0096>.
- Sharma, J., Dhar, R. L., & Tyagi, A. (2016). Stress as a mediator between work–family conflict and psychological health among the nursing staff: Moderating role of emotional intelligence. *Applied Nursing Research*, 30, 268–275. <https://doi.org/10.1016/j.apnr.2015.01.010>.
- Sharma, N., & Dhar, R. L. (2022). From curse to cure of workplace ostracism: A systematic review and future research agenda. *Human Resource Management Review*, 32(3). <https://doi.org/10.1016/j.hrmr.2021.100836>.
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior*, 68(3), 446–460. <https://doi.org/https://doi.org/10.1016/j.jvb.2005.10.005>.
- Srivastava, S., Jain, A. K., & Sullivan, S. (2019). Employee silence and burnout in India: the mediating role of emotional intelligence. *Personnel Review*, 48(4), 1045–1060. <https://doi.org/10.1108/PR-03-2018-0104>.
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43(2), 178–190. <https://doi.org/10.5465/1556375>.
- Ugwu, L. I., Enwereuzor, I. K., Fimber, U. S., & Ugwu, D. I. (2017). Nurses' burnout and counterproductive work behavior in a Nigerian sample: The moderating role of emotional intelligence. *International Journal of Africa Nursing Sciences*, 7, 106–113. <https://doi.org/10.1016/j.ijans.2017.11.004>.
- Wu, C. H., Liu, J., Kwan, H. K., & Lee, C. (2016). Why and when workplace ostracism inhibits organizational citizenship behaviors: An organizational identification perspective. *Journal of Applied Psychology*, 101(3), 362–378. <https://doi.org/10.1037/apl0000063>.
- Xu, X., Kwan, H. K., & Li, M. (2020). Experiencing workplace ostracism with loss of engagement. *Journal of Managerial Psychology*, 35(7–8), 617–630. <https://doi.org/10.1108/JMP-03-2020-0144>.
- Yang, J., & Treadway, D. C. (2018). A Social Influence Interpretation of Workplace Ostracism and Counterproductive Work Behavior. *Journal of Business Ethics*, 148(4), 879–891. <https://doi.org/10.1007/s10551-015-2912-x>.
- Yao, L., Ayub, A., Ishaq, M., Arif, S., Fatima, T., & Sohail, H. M. (2022). Workplace ostracism and employee silence in service organizations: the moderating role of negative reciprocity beliefs. *International Journal of Manpower*, 43(6), 1378–1404. <https://doi.org/10.1108/IJM-04-2021-0261>.
- Zaman, U., Nawaz, S., Shafique, O., & Rafique, S. (2021). Making of rebel talent through workplace ostracism: A moderated-mediation model involving emotional intelligence,

- organizational conflict and knowledge sharing behavior. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1941586>.
- Zhang, L., Fan, C., Deng, Y., Lam, C. F., Hu, E., & Wang, L. (2019). Exploring the interpersonal determinants of job embeddedness and voluntary turnover: A conservation of resources perspective. *Human Resource Management Journal*, 29(3), 413–432. <https://doi.org/10.1111/1748-8583.12235>.
- Zhang, S., & Shi, Q. (2017). The relationship between subjective well-being and workplace ostracism: The moderating role of emotional intelligence. *Journal of Organizational Change Management*, 30(6), 978–988. <https://doi.org/10.1108/JOCM-07-2016-0139>.
- Zhang, Y., Crant, J. M., & Weng, Q. (2019). Role stressors and counterproductive work behavior: The role of negative affect and proactive personality. *International Journal of Selection and Assessment*, 27(3), 267–279. <https://doi.org/10.1111/ijsa.12255>.
- Zhao, H., Xia, Q., He, P., Sheard, G., & Wan, P. (2016). Workplace ostracism and knowledge hiding in service organizations. *International Journal of Hospitality Management*, 59, 84–94. <https://doi.org/10.1016/j.ijhm.2016.09.009>.
- Zhu, Y., & Zhang, D. (2021). Workplace Ostracism and Counterproductive Work Behaviors: The Chain Mediating Role of Anger and Turnover Intention. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.761560>.

A CONCEPTUAL PERSPECTIVE ON CORPORATE GOVERNANCE AND FINANCIAL DISTRESS IN MALAYSIA

Fatin Nabihah Mohd Taha^{1*}, Nety Melissa Baharin², Zarith Sofia Jasmi³, Nurfarhana Hassan⁴,

¹*Faculty of Accountancy, Universiti Teknologi MARA Cawangan Johor,
Kampus Segamat, 85000 Segamat, Malaysia*

²*Faculty of Accountancy, Universiti Teknologi MARA Shah Alam
40450 Selangor Darul Ehsan, Malaysia*

³*Faculty of Business and Management, Universiti Teknologi MARA Cawangan Johor,
Kampus Segamat, 85000 Segamat, Malaysia*

⁴*College of Computer, Informatics and Mathematics, Universiti Teknologi MARA Cawangan Johor,
Kampus Segamat, 85000 Segamat, Malaysia*

*Corresponding Author

Email: fatinnabihah@uitm.edu.my

Received: 12th August 2023

Accepted: 29th March 2024

ABSTRACT

This study aims to provide the conceptual framework on how corporate governance, specifically on the characteristics of the board of directors, has an impact on the financial well-being of the company. This study also employs a corporate governance perspective to examine the composition of the board and its influence on the financial well-being of the companies. The results of this study will provide practical insights for corporate management, boards of directors, and regulatory bodies. Gaining insight into how corporate governance practices can either alleviate or amplify financial distress which can guide decision-making processes, resulting in the development of more effective risk management strategies, enhancements to corporate governance structures, and ultimately, the improvement of corporate performance and stability.

Keywords: Corporate Governance; Board of Directors; Financial Distress

1.0 INTRODUCTION

Financial distress arises when a company struggles or fails to meet financial obligations to creditors or lenders (Suranta et al., 2023). Contributing factors encompass high leverage, illiquid assets, a substantial break-even point, and heightened sensitivity to economic downturns, all amplifying the risk of financial distress. The phenomenon occurs when a company confronts severe financial challenges, often stemming from overwhelming debt, managerial misjudgements, or external economic pressures, imperilling its financial well-being (Ikpesu et al. 2020).

The issue of financial distress among companies is intricate and carries implications for stakeholders, economies, and corporate viability. Companies experiencing financial distress grapple with an inability to satisfy their financial commitments, exposing vulnerabilities in their financial structure. If a company is identified as being in financial distress and no corrective

measures are implemented to enhance its performance, there is a risk of the company entering into bankruptcy or undergoing liquidation (Khaliq et al., 2014; Ikpesu et al., 2020). In such an event, the business could lose its reputation and face the potential of losing existing or prospective investors.

Companies facing financial distress encounter economic challenges such as insufficient capital or equity. In Malaysia, a financially distressed company is classified as a PN17 Company (Manaf et al., 2020). The PN17 refers to Practice Note 17, which is a regulatory framework employed by Bursa Malaysia, the Malaysian Stock Exchange (Manaf et al., 2020). It classifies financially distressed companies failing to meet minimum capital, equity, or core business criteria. Companies under PN17 must submit a comprehensive plan for regularization to address financial challenges (Manaf et al., 2020). Bursa Malaysia, as the country's primary stock exchange, enforces these guidelines to maintain market integrity. Non-compliance may lead to delisting, emphasizing Bursa Malaysia's commitment to ensuring financial stability and safeguarding investor interests.

Corporate governance is one of the reasons for financial distress (Farooq et al., 2020). Corporate governance involves a system of rules, practices, and processes by which a company is directed and controlled. It encompasses the relationships among various stakeholders involved in a company and the goals for which the corporation is governed. The board of directors is responsible for providing oversight and guidance to management. Weak corporate governance may result in boards that lack independence, competence, or accountability. This can lead to a failure to adequately monitor management actions, allowing risky or unethical behaviour to go unchecked and contributing to financial distress. Inadequate corporate governance may exacerbate financial distress through the cultivation of a climate conducive to risk-taking, conflicts of interest, poor decision-making, and non-adherence to legal requirements. Conversely, robust corporate governance measures can serve to alleviate these vulnerabilities and foster enduring financial stability and success for a firm.

The relationship between certain corporate governance factors and financial distress can be complex and context-dependent. For instance, a larger board size may lead to challenges in decision-making efficiency and communication among board members. Additionally, a higher degree of board independence, where most directors are external and free from conflicts of interest, is generally associated with stronger oversight and accountability. Boards with a greater proportion of independent directors are more likely to provide effective checks and balances on management decisions, reducing the likelihood of financial distress resulting from poor governance practices or managerial misconduct. The frequency of board meetings can also impact the board's ability to stay informed about the company's operations, performance, and potential risks. Other than that, CEO duality refers to the situation where the CEO also serves as the chairperson of the board of directors. In cases where CEO duality exists without sufficient checks and balances, there may be a higher risk of managerial entrenchment, poor decision-making, and lack of accountability, all of which can contribute to financial distress. Thus, this study outlines the conceptual framework on the relationship between board size, board independence, board meeting frequency, and CEO duality with financially distressed companies.

There is a limited study in Malaysia that specifically looks into, corporate governance area, thus this study explores the corporate governance characteristics of the active companies with financial distress indications listed on the main market of Bursa Malaysia. Companies that triggered any of the criteria according to Practice Note 17 of the Main Market Listing Requirements of Malaysian Stock Exchange are said to be reprimanded under the PN17 list as financial distress companies. However, there are companies traded normally in the official Bursa Malaysia Securities Berhad or the Malaysian Stock Exchange market but facing financial distress. A study conducted by Kim-Soon et al. (2013) found that not all the PN17

companies listed are in financial failure and there are financial difficulties companies listed among the non-PN17 companies.

The result of this study is to assist the companies in developing a more effective and efficient corporate governance framework and mechanisms, which would contribute to better management of the companies, thus minimizing the risk of being distressed. Potential investors would normally follow the market sentiment when deciding to invest in their money and hardly conducted in-depth financial analysis of the potential investment portfolios. Finally, this study is conducted with anticipation to assist the policymaker in evaluating the current practice of corporate governance, thus such improvement could be taken towards better governance of public listed firms.

2.0 LITERATURE REVIEW

2.1 Financial Distress definition and concept

Predictions of corporate financial distress and bankruptcy have received an overwhelming interest from researchers around the world since the 1960s and it has been the object of study of corporate financial literature to date. The encouragement from the American Institute of Certified Public Accountants and the Securities and Exchange auditor's role in early warning of the incidence of bankruptcy initiated the researchers' attention in analysing the financial health of companies in the United States. Beaver completed the first study of financial failure prediction in 1966 by using statistical analysis on financial ratios. He established a dichotomous classification assessment grounded on a simple t-test in a univariate context. His study used six types of financial ratios from the group of Cash Flow Ratio, Net-Income Ratio, Debt to Total Asset Ratio, Liquid Asset to Total Asset Ratio, Liquid Asset to Current Debt Ratio, and Turnover Ratio towards seventy-nine failure and non-failure companies that were harmonized by industry and assets size for a period of ten years (1954 – 1964). Beaver (1967) concluded that not all ratios predict equally well and Cash Flow to Total Debt Ratio has excellent discriminatory power throughout the five years while the predictive power of the Liquid Asset Ratio is much weaker. He further concluded that the ratio analysis can be useful in the prediction of failure for at least five years prior although the ratios do not predict the failure and non-failure companies with the same degree.

Further to the study completed by Beaver, Edward Altman later developed a bankruptcy prediction model through his study in 1968. Altman's study identified the working capital, total assets, retained earnings, earnings before interest and tax (EBIT), market value of equity, book value of total debt, and sales as an important set of financial and economic ratios in a bankruptcy prediction by employing a multiple discriminant statistical methodology. A sample of 33 bankrupt companies and 33 non-bankrupt companies for the period from 1946 to 1964 were selected for his study. Altman found that there is 95% accuracy one year prior to bankruptcy and 72% accuracy two years prior to bankruptcy. The study came out with a model, the Z-score, which has received overwhelming endorsement across the globe (Mahama, 2015). Altman's model is considered the most common bankruptcy prediction model among researchers (Mohammed, 2016).

The study on financial distress employing Altman's model is never outdated and has always been a topic of interest among researchers around the world. Rajkumar (2015) uses Edward Altman's financial distress detection model and current ratio to assess the financial situation of companies listed in the default board of Colombo Stock Exchange (CSE). He examined eight selected listed companies of CSE by assessing the secondary data obtained from the financial report of the companies and found that there are financially distressed companies listed in the CSE. He concluded that Altman's model and current ratio are reliable tools for investors to predict the financial failure of companies.

Another study carried out by Mahama (2015) found that there were distressed companies listed on the Ghana Stock Exchange (GSE) for the period between 2007 to 2013. This study applied Altman's Z-score to the financial statements of ten companies listed on GSE to determine the level of their financial soundness. He agreed with Gharaibeh et al. (2013), that the Altman model should be used along with non-financial models and proxies that reflect the firm's operating environment. He further suggested that in applying the Altman model, care is to be taken to rationalize the defects of ratios in detecting distress in projects and companies.

In the context of the Malaysia study, Kim-Soon et al. (2013) examine the applicability of the Altman Z-score in determining the financial failure of companies. He also used the Altman Z-score to examine whether there is a successful company between PN17 companies listed on the Stock Exchange of Malaysia. Kim-Soon et al. (2013) used a sample of 52 companies where the financial data were collected from the records over the period from 2003 to 2010 and they concluded that not all the PN17 companies are financial failure companies.

Kim-Soon et al. (2013) completed another study of financial distress companies listed on the Malaysian Stock Exchange using financial liquidity ratios and Altman's model with four objectives; to examine whether financial liquidity ratios (cash ratio, current ratio, quick ratio) and Altman Z-score used in determining the financial soundness of companies yield a significant difference; to examine whether PN17 companies and non-PN17 companies shown any significant difference in their financial status; to determine whether all the PN17 companies listed are financial failure companies; and to determine whether there is financial distress company listed as non-PN17 companies. They used seven years data (year 2003 to year 2009) collected from the library of the Malaysian Stock Exchange to analyze a total of 104 companies from nine sectors of industry listed in the main board (fifty-two PN17 companies and fifty-two non-PN17 companies). The result of the study shows that financial liquidity ratio and Altman Z-score are reliable tools in assessing the financial health of companies. Also, not all the PN17 companies listed are financial failures and there are financial difficulties companies listed among non-PN17 companies.

2.2 Financial Distress in Malaysia

In the case of Malaysia, AirAsia X, the long-haul arm of the AirAsia Group, faced financial challenges due to the COVID-19 pandemic's severe impact on the aviation industry (Rahman, 2023). The airline experienced a significant decline in passenger demand, leading to grounded flights, revenue loss, and increased financial pressure. AirAsia X had been categorized under PN17 (Practice Note 17) status in Malaysia (Rahman, 2023). PN17 is a regulatory status given to companies that do not meet certain financial criteria, indicating financial distress or potential financial difficulty. It imposes requirements and obligations on these companies to address their financial issues and regain compliance with regulatory standards.

To address its financial challenges and exit PN17 status, AirAsia X implemented various restructuring measures, including debt restructuring, cost-cutting initiatives, route optimization, and fleet rationalization (Rahman, 2023). Additionally, the airline engaged in negotiations with creditors and stakeholders to secure support for its restructuring efforts. One significant development in AirAsia X's journey out of financial distress was the approval of its debt restructuring scheme by the Malaysian Court in October 2021. The scheme allowed the airline to restructure its debts and liabilities, providing a path toward financial recovery. Exiting PN17 status typically requires companies to demonstrate improved financial performance, compliance with regulatory requirements, and a sustainable business plan. AirAsia X's successful implementation of its restructuring initiatives, coupled with the approval of its debt restructuring scheme, likely contributed to its ability to exit PN17 status.

Other than that, Perisai Petroleum Teknologi Berhad: Perisai Petroleum Teknologi Berhad is an offshore oilfield services provider that was classified under PN17 status due to its

financial difficulties, including significant debt levels and declining revenues. Moreover, KNM Group Berhad, a global engineering, procurement, construction, and commissioning (EPCC) company in the oil and gas sector, was placed under PN17 status due to its financial challenges, including high debts and losses.

2.3 Agency Theory

The agency theory is an idea that explains the relationship between principals (shareholders) and agents (corporate managers) in business. Agency theory is concerned with resolving problems that can exist in agency relationships due to interest diversion. The agency relationship is a contract under which one party (the principal) engages another party (the agent) to perform some service on their behalf. As part of this, the principal will delegate some decision-making authority to the agent. The model of man underlying agency theory is that of a rational actor who seeks to maximize his or her individual utility (Jensen & Meckling, 1976). In agency theory, both agents and principals seek to receive as much possible utility with the least possible expenditure, thus they will choose the option that increases their individual utility (Hufford, 1997).

The advent of the modern corporation created a separation between ownership and control of wealth (Berle & Means, 1932). Even though owners would prefer to manage their own companies and acquire the maximum utility for themselves, this is impossible because of the capital requirements of the modern corporation (Berle & Means, 1932 as cited in Hufford, 1997). The modern corporation typically has multiple owners where each intends on maximizing their own investment in the organizations.

Owners' contracts with executives in managing their firms made them principals to their agents. Both agents and principals are motivated by opportunities for their own personal benefits. Principals invest their wealth and design governance systems in ways that maximize their utility, while agents accept the responsibility of managing a principal's investment as they perceive the possibility of gaining more utility with this opportunity than by accepting other opportunities (Hufford, 1997).

The principal-agent problem occurs when the interests of both parties are diverged, thus it will lead to the rise of the agency costs. The objective in agency theory then is to reduce the agency costs incurred by principals by imposing internal controls to keep the agent's self-serving behavior in check (Jensen & Meckling, 1976).

A solid corporate policy could help in aligning the interests of both agents and principals. Thus, corporate governance can be used to change the rules under which the agent operates and restore the principal's interests. Incentives may be used to redirect the behavior of the agent to realign these interests with the principal.

2.4 Stewardship Theory

Stewardship theory defines situations in which managers are not motivated by individual objectives, yet rather are Stewards whose intentions are parallel with the principals' objectives (Davis et al., 1997). Stewardship theory argues that shareholder interests take priority with a joint leadership structure. In contrast to the implicit assumption of agency theory that boards are inherently opportunistic, Stewardship theory contends that non-financial factors such as intrinsic satisfaction from achievement, recognition, respect, and reputation will motivate boards to enhance firm value by using the unity of command to manage the firm's resources as good stewards.

According to this theory, Steward behavior is pro-organizational and collectivist, where it will not depart from the interests of his or her organization. A Steward will not trade self-serving

behaviors for cooperative behaviors. The Steward put a high value on cooperation even when their interests diverged from the principals. A Steward's behavior is rational since he or she perceives greater utility in cooperative behavior and behaves accordingly.

Stewards are normal human beings, and they also have their survival needs to satisfy. Obviously, they must have an income in order to fulfill their survival needs. Because the Stewards will not trade self-serving behaviors for cooperative behaviors, they believe that their personal needs are met by working towards organizational, collective ends. Thus, the Steward's opportunistic behavior is guarded by the view that the utility gained from pro-organizational behavior is higher than individualistic, self-serving behavior. Pfeffer and Salancik (1978) emphasize that the increased discretion afforded by dual leadership enhances the board's ability to more quickly react and respond in a dynamic business environment and to secure resources critical to the firm's success.

2.5 Corporate Governance Attributes

2.5.1 Board size and financial distress

The board size refers to the number of board members in the company's organizational structure who act as representatives of the shareholders and other stakeholders. The ideal board size varies by country. The Malaysian Code on Corporate Governance does not prescribe the required size of the board. Instead, each board should evaluate its size to determine the impact on its functioning. There is no perfect and ideal board size, but the optimal size for a board should allow the board to operate cohesively as a team.

Previous studies indicated mixed results about the relationship between board size and firm's performance. The influence depends on how the board can reach consensus and to what extent the knowledge and expertise of the individual members are being utilized. There are two contradicting perspectives derived from the previous studies. Various researchers concluded the larger the board will lead to better performance (Alabdullah et al., 2018; Tulung & Ramdani, 2018; Shukeri et al., 2012). A large board provides greater monitoring, increases the independence of the board, and counteract the managerial entrenchment, hence increasing firm performance (Fauzi & Locke, 2012).

In contrast, some studies anticipated that the small size of the board is more effective. Keerthana et al. (2022) stated that board size positively impacts financial distress in which the findings suggest that having a small number of directors on board correlates with a decreased probability of experiencing financial distress. This is supported by a study conducted by Adnan et al., (2011) found that smaller board size and higher percentage of block ownership led to better efficiency of Malaysian banks. Their study investigates the impact of corporate governance on efficiency of Malaysian listed banks by using a panel data analysis. This study employed corporate governance variables represented by board leadership structure, board composition, board size, director ownership, institutional ownership, and block ownership. Thus, the first hypothesis is written as:

H1: There is a negative relationship between board size and financially distress company.

2.5.2 Board independence and financial distress

In line with the Malaysian Code on Corporate Governance, Principal A – Board Leadership and Effectiveness, emphasizes an ideal group of people who possess a well-balanced blend of skills, knowledge, experience and independent perspectives aligned with the company's objectives and strategic goals will secure the board effectiveness. The proper composition of the board will not only ensure sufficient diversity and independence but also serve as a deterrent against 'groupthink' or 'blind spots' in the decision-making process. This strategic

composition also enables the board to effectively address challenges and contribute value to the company.

The board comprises executives and non-executives who are either independent or non-independent directors. The non-executive directors (NEDs) play a role in monitoring the actions of the CEO and executive directors to ensure that the shareholders' interests are well cared for. According to Nahar et al. (2023) independent directors play an important role in supervising management activities to enhance firm performance. Beasley (1996) explained that independent directors hold better judgment and fair representation of shareholders' interest, suitability as a reliable governing mechanism and their potential ability to concentrate on ensuring the maximization of shareholder value. In the study conducted by Nahar et al. (2022) board independence and board gender diversity support the initiatives taken by the Securities Commission. Hence, increasing the number of independent directors to make up at least half of the board size is important in enhancing board independence. The non-executive directors are also considered to be a guarantee of the integrity and accountability of company boards, thus by having independent non-executive directors on the board, these directors would help to monitor and control the opportunistic behavior of management and assist in evaluating the management more objectively (Alhaji et al., 2013). A study conducted by Li et al. (2008) indicates that ownership concentration, state ownership, ultimate owner, independent directors, and auditors' opinion turn out to be negatively associated with the probability of financial distress. Shukeri et al. (2012) also documented that board independence has a significant negative relationship with firm performance. Their empirical result provides no evidence that companies having more independent directors can increase firm value because there is no personal interest being exercised. Thus, the second hypothesis is as follows:

H2: There is a negative relationship between board independence and financially distress company.

2.5.3 Board meeting frequency and financial distress

Board meetings attended by the board members or their representatives to discuss and address important issues relating to their prior experiences, current problems, and forward-looking matters as it relates to the company's survival. The board of directors play a role as agents of the company and responsible in taking actions and making decisions on behalf of the company. Every decision documented in the board meeting is legal and becomes effective in the company. The Malaysian Code on Corporate Governance encouraged companies to have regular board meetings for discharging duties and responsibilities. Furthermore, it is compulsory for the board to reveal the frequency of board meetings they had in a year and details of the attendance of each individual director in respect to meetings held.

The agency theory of corporate governance lies on assumption that managers are opportunistic and individualistic, which they are prone to moral hazard. Thus, a frequent board meeting might expeditiously observe social control behaviour in order that it does align with shareholders' goals. It is anticipated to reduce the agency problems and enhance firm performance. Board meeting frequency is determined by the number of meetings held in a year and frequently held meetings are considered as a meaningful way of improving board effectiveness. Board meeting serves as a platform of synchronizing board members' opinion towards accomplishing firms' overall objectives. Also, it helps to increase board efficiency and bring the board members into collective mind by serving as a platform for circulating relevant information to all board members regarding the growth of the company.

Vafeas (1999) suggested that board activity, measured by board meeting frequency, is an important dimension of board operations as the frequency of board meetings are increased following the company's poor performance. It is supported by Ntim and Osei (2011) which also concluded boards that meet more frequently are likely to generate better financial

performance. According to Francis et al. (2015) firms with low board attendance at meetings perform significantly worse than boards which have good attendance during a financial crisis. A recent study completed by Eluyela et al. (2018) also found a positive relationship between board meeting frequency and firm performance.

However, some studies consider board meetings to be less useful due to insufficient time non-executives spend with the company and consider such time could be better utilized for a more meaningful thoughts exchange with the management. Furthermore, frequent meetings require managerial time and raise travel expenses, administrative expenses, and directors' meeting fees. Juhl et al. (2013) stated that board meetings are found to have an adverse effect on firm performance. Their study specifically tested the effects of board meeting, board independence, board size and directors accounting expertise on firm accounting performance. The study sample consisted of the 700 public listed firms in Malaysia and both financial and non-financial data were extracted from annual reports for the year 2009. The result is parallel with the earlier study conducted by Juhl (2006), which found that there was a negative relationship between frequency of board meetings and entrepreneurial activities in firms. Therefore, the third hypothesis is written as:

H3: There is a positive relationship between board meeting frequency and financially distress company.

2.5.4 CEO Duality and financial distress

Numerous governance codes emphasized good governance principles by stressing on the fact that the roles of CEO and Chairman of the company should be held by separate individuals to remove unvested power over one individual and for better performance of the company. The Malaysian Code on Corporate Governance (MCCG) suggests that it's preferable to have a division between the roles of CEO and Chairman to maintain a fair distribution of power and authority, preventing any single individual from having unchecked decision-making authority. Role duality refers to a situation when one person holds the two most dominant posts in a corporation, the Chief Executive Officer (CEO) and Chairman. Though there is a broad body of literature on how CEO duality may influence the firm performance, the studies have produced mixed results. One school of thought points out the importance of roles separation between CEO and Chairman of the company, while the other school of thoughts supports the role duality.

A study conducted by Azeez (2015) suggests that role duality would infringe the separation of decision management from decision control. He further viewed that this would lead to unvested power on one individual leading decision biases over one individual leaving greater opportunity for him to act in accordance with his personal interest which would in turn be harmful for the shareholders of the company. The finding is consistent with the study conducted by Keerthana et al. (2022) and Duru et al. (2016), which found that CEO duality has statistically significant negative impacts on firm performance and is likely to experience financial distress. Separation of roles may produce information-sharing costs, conflicts between CEO and Chairman and inefficiency. It will be costly to communicate firm-specific information to others in a timely manner; the decision making process and execution may both be less efficient when there are two key leaders; as well as it may be more difficult to assign blame for bad company performance.

On the other hand, Simpson & Gleason (1999) stated that the combination of the CEO and chairman of the board into one position may influence the internal control system in such a way as to reduce the probability of financial distress in the company. The result is consistent with the study done by Miglani et al., (2015a), which stated that the CEO duality leads to reducing the probability of financial distress in the company. As such, the fourth hypothesis is written as:

H4: There is a negative relationship between CEO duality and financially distress company.

2.6 Conceptual Framework

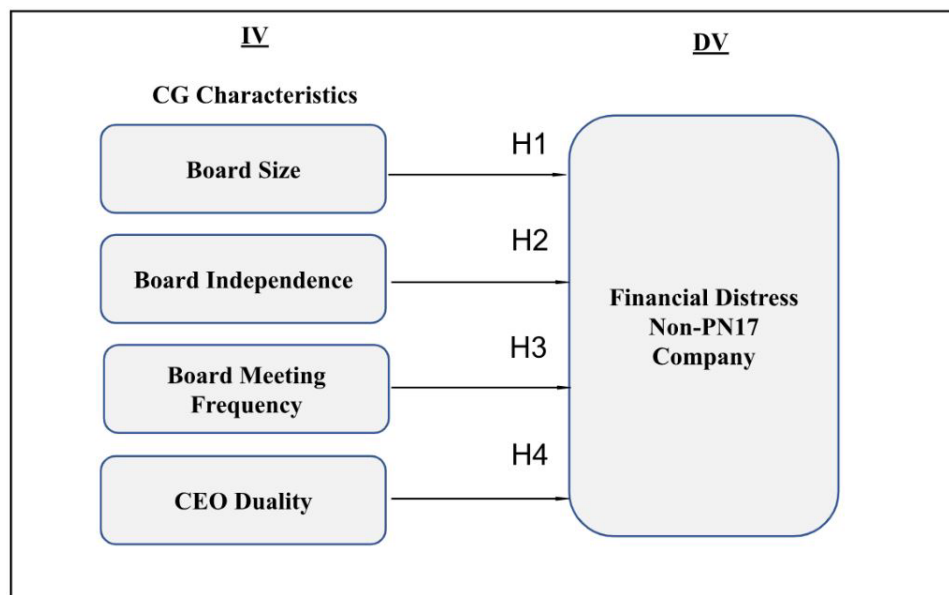


Fig 1 Conceptual Framework

3.0 CONCLUSION

This study outlines conceptual perspectives on the relationship between corporate governance characteristics such as board size, board independence, board meeting frequency, and CEO duality with financial distress of PN17 companies listed in the main market of Bursa Malaysia.

This study contributes to the adding body of literature on the relationship between corporate governance structures and distress company. Also, it helps to determine the corporate governance characteristics that give significant influence on the financial distress. An early detection of those factors could help companies to evaluate their current governance structure for any necessary improvement towards more effective and efficient corporate governance framework and mechanisms, thus avoiding the potential risk of being liquidated. Finally, this study is hoped to assist the policymaker in evaluating the current practice of corporate governance and formulating the more efficient framework. This study differs from prior research by offering specific, empirical insights into the relationship between corporate governance and financial distress, in advocating for more efficient risk management strategies, and addressing both company-level and policy-level considerations.

The limitation of this study, this study only access the relationship between corporate governance with companies listed as PN17 status. However, this study believed there are active companies in Bursa Malaysia listing that currently in unhealthy financial situations. Altman Z Score is proven to be one of the effective method in assessing the financial health of the companies based on the previous empirical studies. Thus, the researcher could employ Altman Z-score Model to identify the financial health of the companies. The Altman Z-score Model analysed a set of financial and economic ratios by employing a multiple discriminant statistical methodology. For future research, researchers might consider extending the timeframe to obtain more comprehensive findings. Additionally, it is recommended that researchers examine bankruptcy costs or financial distress costs within small firms, where the probability of business failure is higher compared to larger corporations.

CO-AUTHOR CONTRIBUTION.

The authors affirmed that there is no conflict of interest in this article. Authors 1 and 2 prepared the literature review and wrote the original version of the article. Author 3 and 4 prepared discussion and conclusion.

REFERENCES

- Adnan, M. A., Rashid, H. M. A., Meera, A. K. M., & Htay, S. N. N. (2011). A panel data analysis on the relationship between corporate governance and bank efficiency. *Journal of Accounting*, 1(1), 1–15.
- Alabdullah, T. T. Y., Nor, M. I., Ahmed, E. R., & Yahya, S. (2018). The determination of firm performance in emerging nations: Do board size and firm size matter? *International Academic Institute for Science and Technology*, 5(3), 57–66.
- Alhaji, I. A., Baba, M. I., & Yusoff, W. F. W. (2013). The relationship between independent non executive directors' and audit committee on firm performance among Malaysian listed companies. *Proceeding Book of ICEFMO, 2013, Malaysia*, 107–113.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The journal of finance*, 23(4), 589-609.
- Azeez, D. A. A. (2015). Corporate governance and firm performance: Evidence from Sri Lanka. *Journal of Finance and Bank Management*, 3(1). <https://doi.org/10.15640/jfbm.v3n1a16>.
- Beasley, M. S. (1996). An empirical analysis of the relation between the board and director composition and financial statement fraud. *The Accounting Review*, 71(4), 443-65.
- Beaver, W. H. (1966). Financial ratios as predictors of failure. *Journal of accounting research*, 71-111.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22(1), 20–47.
- Duru, A., Iyengar, R. J., & Zampelli, E. M. (2016). The dynamic relationship between CEO duality and firm performance: The moderating role of board independence. *Journal of Business Research*, 69(10), 4269–4277.
- Eluyela, D. F., Akintimehin, O. O., Okere, W., Ozordi, E., Osuma, G. O., Ilogho, S. O., & Oladipo, O. A. (2018). Board meeting frequency and firm performance: examining the nexus in Nigerian deposit money banks. *Heliyon*, 4(10), e00850.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301-325.
- Farooq, M., Noor, A., & Fatima, K. (2020). The impact of corporate governance on financial distress likelihood: an empirical evidence. *City University Research Journal*, 10(4).
- Fauzi, F., & Locke, S. (2012). Board structure, ownership structure and firm performance: A study of New Zealand listed-firms. *Asian Academy of Management Journal of Accounting and Finance*, 8(2), 43–67. <https://doi.org/10.1055/s-2005-915471>.
- Francis, B., Hasan, I., & Wu, Q. (2015). Professors in the boardroom and their impact on CG and Firm Performance. *Journal of Financial Economics*, (Fall), 291–309.
- Gharaibeh, M. A., Sartawi, I. I. S. M., & Daradkah, D. (2013). The Applicability of corporate failure models to emerging economies: Evidence from Jordan. *Interdisciplinary Journal of Contemporary Research in Business*, 5(4), 313–325.
- Hufford, L. (1997). Towards a stewardship theory of management. *International Journal of Plant Science*, 158, S65–S80.
- Ikpesu, F., Vincent, O., & Dakare, O. (2020). Financial distress overview, determinants, and sustainable remedial measures: Financial distress. In *Corporate Governance Models and Applications in Developing Economies* (pp. 102-113). IGI Global.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X).

- Johl, S. K. (2006). *Corporate entrepreneurship and corporate governance: An empirical analysis*. [Doctoral dissertation, University of Nottingham].
- Johl, S. K., Kaur, S., & Cooper, B. J. (2013). Board Characteristics and Firm Performance: Evidence from Malaysian Public Listed Firms. *Journal of Economics, Business and Management*, 3(2), 239–243.
- Keerthana, G., & Balagobei, S. (2022). Board characteristics and financial distress: Empirical evidence from Sri Lanka. *International Conference on Management and Economics*, 7-20.
- Khaliq, A., Motawe Altarturi, B. H., Mohd Thas Thaker, H., Harun, M. Y., & Nahar, N. (2014). Identifying financial distress firms: A case study of Malaysia's government linked companies (GLC). *International Journal of Economic, Finance and Management*, 3(3), 141–150.
- Kim-soon, N., Mohammed, A. A. E., & Agob, F. K. M. (2013). A study of financial distress companies listed in the Malaysian stock exchange using financial liquidity ratios and Altman's Model. *European Journal of Scientific Research*, 114(4), 513–525.
- Kim-soon, N., Tun, U., Onn, H., Elmabrok, A. A., Ahmad, A. R., Tun, U., ... & Huam, T. H. (2013).: A Case of PN17. *Companies Quoted in Malays*, (March).
- Kumar, N., & Singh, J. P. (2013). Effect of board size and promoter ownership on firm value: Some empirical findings from India. *Corporate Governance (Bingley)*, 13(1), 88–98. <https://doi.org/10.1108/14720701311302431>.
- Mahama, M., & Campus, T. (2015). Assessing the state of financial distress in listed companies in Ghana: Signs, sources, detection and elimination—A Test of Altman's Z-Score. *European Journal of Business and Management*, 7(3), 1-10.
- Manaf, S. M. A., Amzah, N. F. H., & Salleh, W. A (2020). An investigation of factors affecting financial distress: Analysis Among PN17 Companies in Bursa Malaysia. *INSIGHT Journal*, 182-198.
- Miglani, S., Ahmed, K., & Henry, D. (2015a). Voluntary corporate governance structure and financial distress: Evidence from Australia. *Journal of Contemporary Accounting and Economics*, 11(1), 18–30.
- Mohammed, S. (2016). Bankruptcy prediction by using the Altman Z-score model in Oman: A case study of Raysut cement company SAOG and its subsidiaries. *Australasian Accounting, Business and Finance Journal*, 10(4), 70-80.
- Nahar, S., Aziz, A., & Azani, A. (2022). The effect of board independence, gender diversity and board size on firm performance in Malaysia. *Journal of Social Economics Research*, 9(4), 179-192.
- Nahar, W. N. A. W., Yunus, R. M., & Ahmad, S. A. (2023). Board's impact on the firm's strategic change. *INSIGHT Journal*, 174-184.
- Ntim, C., & Osei, K. A. (2011). The impact of board structure on corporate performance in India. *Journal Compilation 2011 African Centre for Economics and Finance*, 2(2), 83–103.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. Harper & Row.
- Rahman, A. H. A (2023). Airasia x seeks fresh capital post-pn17, sees a promising 2024. <https://www.bernama.com/en/business/news.php?id=2250283>.
- Rajkumar, P. (2015). *Using Altman's model and current ratio to assess the financial distress of listed companies in the default board of Colombo stock exchange, III(Xii)*, 1–6.
- Shukeri, S. N., Shin, O. W., & Shaari, M. S. (2012). Does board of director's characteristics affect firm performance? evidence from Malaysian public listed companies. *International Business Research*, 5(9). <https://doi.org/10.5539/ibr.v5n9p120>.
- Simpson, W. G., & Gleason, A. E. (1999). Board structure, ownership, and financial distress in banking firms. *International Review of Economics and Finance*, 8(3), 281–292.
- Suranta, E., Satrio, M. A. B., & Midiastuty, P. P. (2023). Effect of investment, free cash flow, earnings management, interest coverage ratio, liquidity, and leverage on financial distress. *Ilomata International Journal of Tax and Accounting*, 4(2), 283-295.

- Tulung, J. E., & Ramdani, D. (2018). Independence, size and performance of the board: An emerging market research. *Corporate Ownership and Control*, 15(2), 201–208.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113–142.